SURROUND RECEIVER FR740/00

MX740/22

Service
Service
Service

Service Manual

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Safety regulations require that the set be restored to its original condition and that parts which are indentical with those specified be used.

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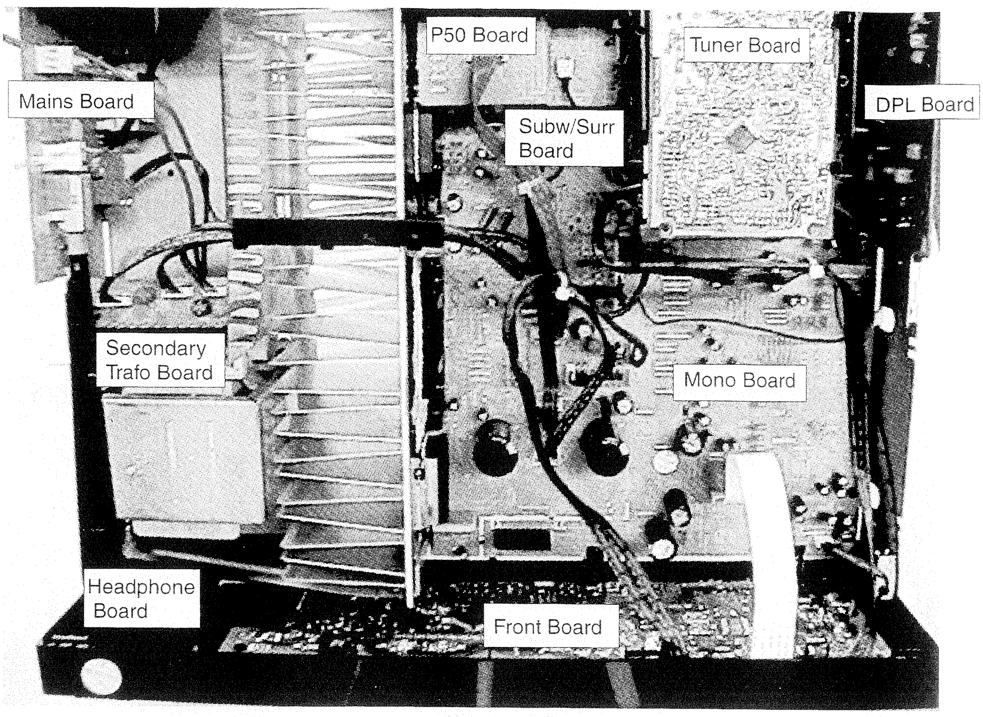
PCS 102 412

PHILIPS

LOCATION OF PRINTED CIRCUIT BOARDS


P50 Board
Tuner Board
Mains Board
DPL Board
Subw/Surr Board
Secondary Trafo Board
Mono Board
Headphone Board
Front Board

SYSTEM INFORMATION

Receiver	Front speaker	Center speaker	Surround Speaker
MX740/22 include :			
FR740/00	2 x Home Cinema Speaker 60W	Home Cinema Center Speaker 60W	2 x Home Cinema Surround Speaker 60W

SPECIFICATION FR740

General

Mains voltage : 230V
Mains frequency : 50Hz
Power concumption : ≤ 2W at stby
Dimension : 138x435x350 mm
Remote control : RC2526

Amplifier

Output power
Stereo mode (L+R) :2x60W DIN
(1kHz, 0,7%THD, 6Ω)
Surround mode
L+R : 2x60W (1kHz, 0,7%THD, 6Ω)
Center : 60W (1kHz, 0,7%THD, 6Ω)
Surround Left+Right : 2x60W (1kHz, 0,7%THD, 6Ω)

Distortion (5W)
1kHz : ≤ 0,05%
40Hz - 20kHz: : ≤ 0,2%

Headphone : 6,3mm stereo jack with switch
Output level : 3V EMF, 60Ω

Crosstalk between source —1kHz : ≤ -65dB
(1W) 250Hz – 10kHz : ≤ -60dB

Crosstalk between channels -1kHz : ≤ -55dB
(1W) 250Hz – 10kHz : ≤ -50dB

Frequency response : ≤ 10Hz – ≥30kHz (-1dB)

Power stage protection : Shortcircuit
: DC (Vout ≥10V) for ±1sec
Temperature : Transformer (≥140° Celcius)
: Heatsink (≥140° Celcius)

Audio Selector

Input sensitivity
CD : 250mV impedance ≥ 47kΩ
CDR/TAPE : 250mV impedance ≥ 47kΩ
VCR : 250mV impedance ≥ 47kΩ
TV : 250mV impedance ≥ 47kΩ
6 CH / DVD : 250mV impedance ≥ 47kΩ

Output level
CDR/TAPE : 250mV impedance ≤ 1kΩ
VCR : 250mV impedance ≤ 1kΩ

Output level (variable)
Center pre-out : 800mV impedance ≤ 1kΩ
Subwoofer pre-out : 800mV impedance ≤ 1kΩ

Tone controle

Loudness
(volume ≤ -20dB Ref: 1kHz=0dB) : 100Hz +6 dB
: 10kHz +2,5 dB

Tone control (Ref: 1kHz=0dB)
: Bass 100Hz -9dB →+9dB
: Treble 10kHz -9dB →+9dB

Hall : Lt , Rt into Left, Surround, Right

DSC settings		100Hz	1kHz	10kHz
Personal	dB	0	0	0
Movie	dB	+ 4	+2	+4
Speech	dB	- 4	+1	- 2
Music	dB	+ 4	- 1	+2
Multimedia	dB	+ 7	+3	+6

Dolby Pro Logic

Stereo bypass from : Lt , Rt into Left, Right
Dolby Pro Logic decoding : Lt , Rt into Left, Right, Center,
: Surround
Dolby 3 Stereo decoding : Lt , Rt into Left, Center, Right
Center phantom decoding : Lt , Rt into Left, Right, Surround
(Phantom = no center speaker)
Surround delay : variable (15 - 30 msec)
Center mode : Large, smal, phantom
Testtone

Tuner - (Tuner95)

RDS : Only in /00

FM
Tuning range : 87.5 – 108MHz

Grid : 50kHz

IF frequency : 10.7MHz ±25kHz
Aerial input : 75 Ω coaxial
Sensitivity at 26dB S/N : ≤ 2µv
Selectivity at 300kHz : ≥ 55dB
Image rejection : ≥ 100dB
Distortion at RF=1mV,dev.75kHz : ≤ 0,8%
-3dB Limiting point : ≤ 2µV
Crosstalk at RF=1mV,dev.40kHz : ≥35dB

MW
Tuning range : 531 - 1602kHz
Grid : 9kHz
IF frequency : 450kHz ±1kHz
Aerial input : Frame aerial
Sensitivity at 26dB S/N : ≤ 1,5mV/m
Selectivity at 9kHz : ≥ 23dB
IF rejection : ≥ 50dB
Image rejection : ≥ 33dB
Distortion at RF=50mV,m=80% : ≤ 3%

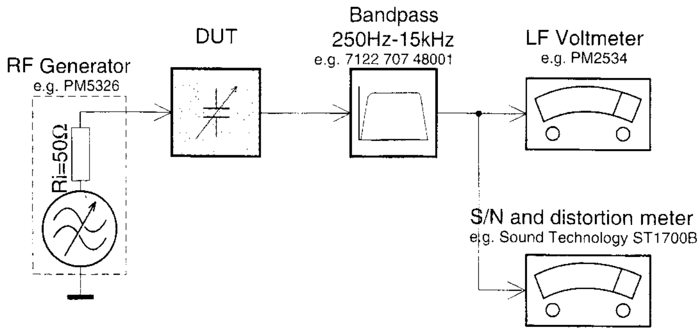
LW only in /00
Tuning range : 153 - 279kHz
Grid : 3kHz
IF frequency : 450kHz ±1kHz
Aerial input : Frame aerial
Sensitivity at 26dB S/N : ≤ 2,8mV/m
Selectivity at 9kHz : ≥ 26dB
IF rejection : ≥ 100dB
Image rejection : ≥ 45dB
Distortion at RF=50mV,m=80% : ≤ 3%dB

SERVICE TOOL

Dolby Prologic Test Disc..............................4822 395 10216

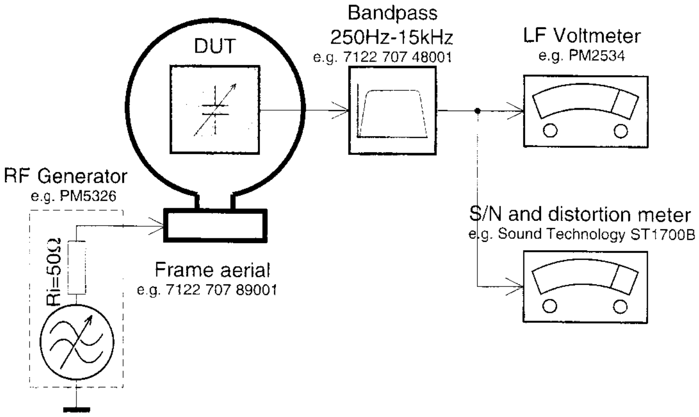
MEASUREMENT SETUP

Tuner FM


Bandpass
250Hz-15kHz
e.g. 7122 707 48001
DUT
LF Voltmeter
e.g. PM2534
RF Generator
e.g. PM5326
Ri=50Ω
S/N and distortion meter
e.g. Sound Technology ST1700B

Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

Tuner AM (MW,LW)


Bandpass
250Hz-15kHz
e.g. 7122 707 48001
DUT
LF Voltmeter
e.g. PM2534
RF Generator
e.g. PM5326
Ri=50Ω
Frame aerial
e.g. 7122 707 89001
S/N and distortion meter
e.g. Sound Technology ST1700B

To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

SAFETY

Ⓖⓑ
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.
Safety components are marked by the symbol ⚠

Ⓕ
Les normes de sécurité exigent que l´appareil soit remis à l´état d´origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.
Les composants de sécurité sont marqués ⚠

SAFETY

Ⓓ
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.
Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

Ⓝⓛ
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.
De Veiligheidsonderdelen zijn aangeduid met het symbool ⚠

Ⓘ
Le norme di sicurezza estigono che l´apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

WARNING

ESD

Ⓖⓑ WARNING

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.

Ⓕ ATTENTION

Tous les IC et beaucoup d´autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu´aucune précaution nést prise à leur manipulation.
Lors de réparations, s´assurer de bien être relié au même potentiel que la masse de l´appareil et enfileer le bracelet serti d´une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l´on utilise soient également à ce potentiel.

Ⓓ WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, daß sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

ⓃⓁ WAARSCHUWING

Alle IC´s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

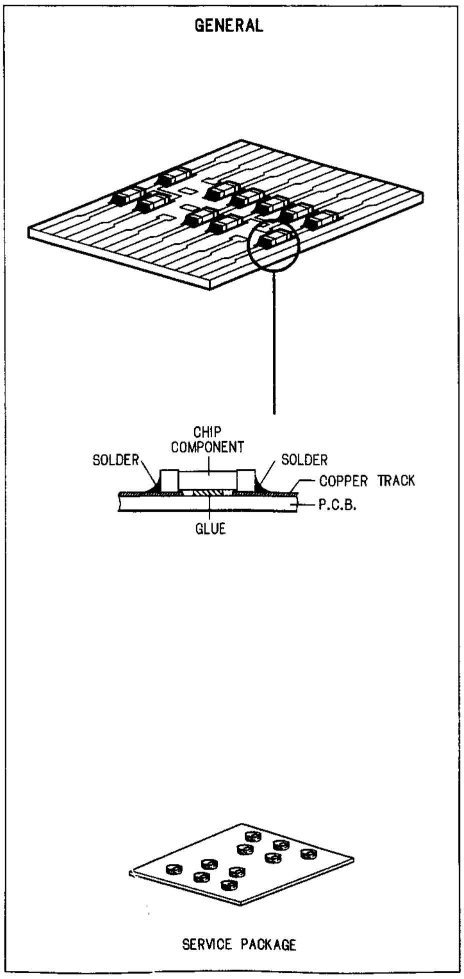
Ⓘ AVVERTIMENTO

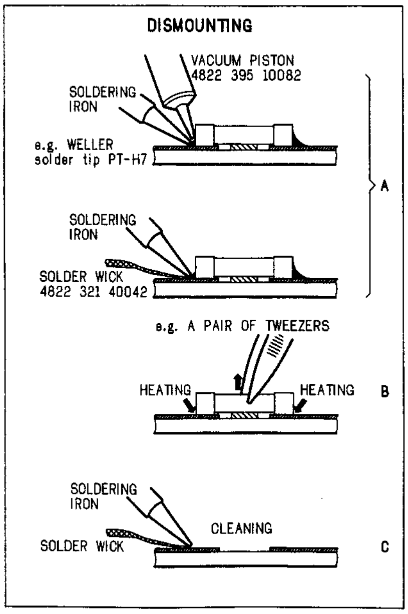
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le ripartioni occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

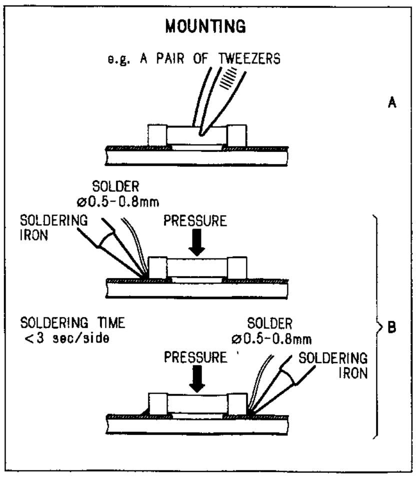
Ⓖⓑ AVAILABLE ESD PROTECTION EQUIPMENT :

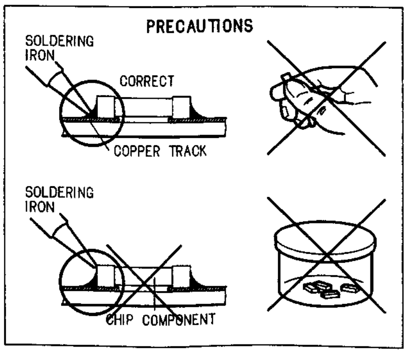
anti-static table mat	large 1200x650x1.25mm	4822 466 10953
	small 600x650x1.25mm	4822 466 10958
anti-static wristband		4822 395 10223
connection box (3 press stud connections, 1M)		4822 320 11307
extendible cable (2m, 2M , to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2M , to connect table mat to connection box)		4822 320 11306
earth cable (1M , to connect any product to mat or to connection box)		4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat)		4822 310 10671
wristband tester		4822 344 13999

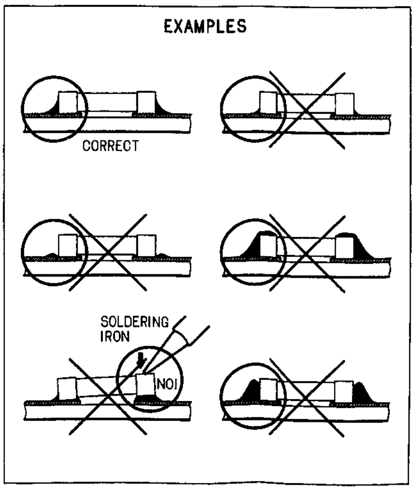
HANDLING CHIP COMPONENTS


GENERAL
CHIP COMPONENT
SOLDER
SOLDER
COPPER TRACK
P.C.B.
GLUE
SERVICE PACKAGE


DISMOUNTING
VACUUM PISTON
4822 395 10082
SOLDERING IRON
e.g. WELLER solder tip PT-H7
A
SOLDERING IRON
SOLDER WICK
4822 321 40042
e.g. A PAIR OF TWEEZERS
HEATING
HEATING
B
SOLDERING IRON
CLEANING
SOLDER WICK
C


MOUNTING
e.g. A PAIR OF TWEEZERS
A
SOLDER
ø0.5-0.8mm
SOLDERING IRON
PRESSURE
SOLDERING TIME
<3 sec/side
SOLDER
ø0.5-0.8mm
B
PRESSURE
SOLDERING IRON


PRECAUTIONS
SOLDERING IRON
CORRECT
COPPER TRACK
SOLDERING IRON
CHIP COMPONENT


EXAMPLES
CORRECT
SOLDERING IRON
NO!

ABBREVIATIONS

A

ac 0VA	AC 0 Voltage
ac 10VB	AC 10 Voltage
ac 110VB	AC 110 Voltage
ac 120VB	AC 120 Voltage
ac gnd	AC ground
ac1	AC voltage 1
ac2	AC voltage 2
ac3	AC voltage 3
ac h1	AC high voltage 1
ac h2	AC high voltage 2
ac l1	AC low voltage 1
ac l2	AC low voltage 2
amp lr on	Amplifier Left - Right On
amp mute lr	Amplifier mute Left - Right
amp mute c s	Amplifier mute center surround
amp mute c s sub	Amplifier mute center surround subwoofer
amp pd	Amplifier power down
amp prot	Amplifier protection
amp s on	Amplifier surround On
amp stby	Amplifier Standby
av gnd	Audio ground
av l	Audio Left
av r	Audio Right

D

d gnd	Dolby ground
dd req	Dolby decoder request
dpl c out	Dolbyprologic Center out
dpl clk	Dolbyprologic clock
dpl gnd	Dolbyprologic ground
dpl l in	Dolbyprologic Left in
dpl l out	Dolbyprologic Left out
dpl r in	Dolbyprologic Right in
dpl r out	Dolbyprologic Right out
dpl s	Dolbyprologic surround
dpl sub	Dolbyprologic subwoofer

F

f1	Filament 1
f2	Filament 2
fmute	Fast mute

G

gnd d	Ground digital
gnd s	Ground signal

H

hp gnd	Headphone ground
hp l	Headphone Left
hp on	Headphone On
hp r	Headphone Right
hst	Heatsink temperature

L

ls c	Loudspeaker Center
ls gnd	Loudspeaker ground
ls l	Loudspeaker Left
ls r	Loudspeaker Right

M

mfd	Mains failure detection

P

p gnd	P50 ground
p p50	Cinema link P50 code

S

ss ce	Source selector chipenable
ss clk	Source selector clock
ss data	Source selector data
sofac scl	Sofac I^2C clock
sofac1 sda1	Sofac 1 I^2C data1
sofac2 sda2	Sofac 2 I^2C data2
surr pre-out	Surround pre-out
s gnd	Surround ground

T

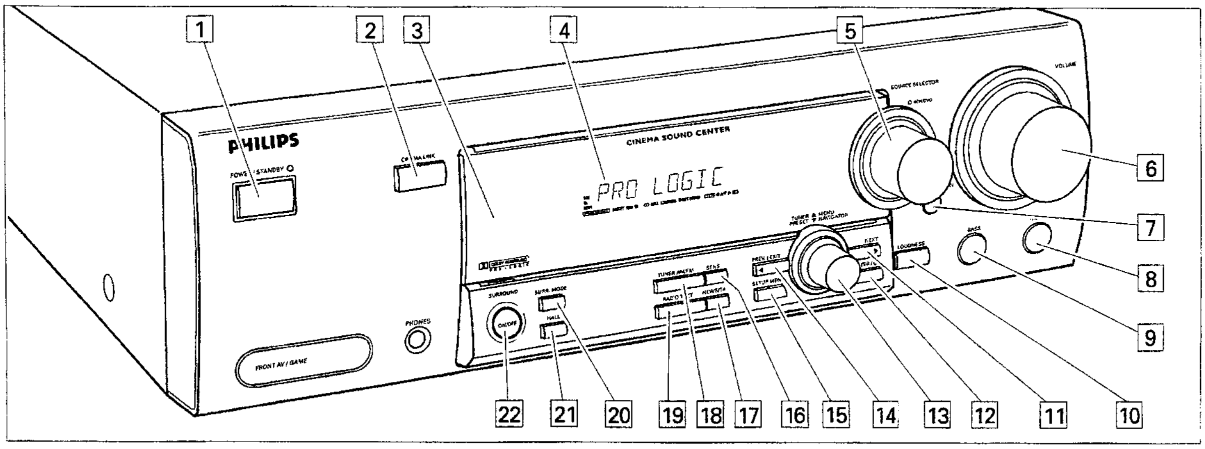
tu clk	Tuner clock
tu da	Tuner data
tu en	Tuner enable
tu gnd	Tuner ground
tu l	Tuner Left
tu r	Tuner Right
tu rds	Tuner RDS
tu stereo	Tuner stereo

V

v gnd	Video ground

INSTRUCTIONS FOR USE

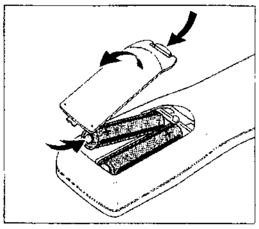
CONTROLS


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
PHILIPS
POWER / STANDBY
CINEMA LINK
CINEMA SOUND CENTER
PRO LOGIC
SOURCE SELECTOR
VOLUME
TUNER PRESET / MENU NAVIGATOR
LOUDNESS
BASS
TREBLE
SURROUND
SURR. MODE
HALL
PHONES
FRONT AV / GAME

1	**POWER / STANDBY**	Switches the receiver on and off.
2	**CINEMA LINK**	Switches the system control bus between the receiver and the TV on and off.
3		Sensor for the infrared remote control.
4		Display
5	**SOURCE SELECTOR**	Selects the different audio and video connectors.
6	**VOLUME**	Increases and decreases the volume level.
7	**FRONT AV**	Selects the FRONT AV / GAME input (FR 760 only).
8	**TREBLE**	Adjusts the treble when used in combination with VOLUME.
9	**BASS**	Adjusts the bass when used in combination with VOLUME.
10	**LOUDNESS**	Switches LOUDNESS on and off.
11	**NEXT ▶**	TUNER: searches radio stations. MENU: switches to the next menu level.
12	**ENTER / OK**	Confirms selected menu values.
13	**TUNER PRESET ▲▼ MENU NAVIGATOR**	TUNER: switches to the next and previous stored radio station. MENU: moves upwards and downwards.
14	**◀ PREV. / EXIT**	TUNER: searches radio stations. MENU: switches to the previous menu level.
15	**SETUP MENU**	Switches the menu on and off.
16	**SENS.**	Switches between low and high tuner sensitivity.
17	**NEWS/TA**	Switches the RDS news and RDS traffic announcement on and off.
18	**TUNER AM/FM**	Switches the wavebands of the tuner.
19	**RADIO TEXT**	Scrolls through the different RDS information.
20	**SURR. MODE**	Switches through the different speaker configurations.
21	**HALL**	Switches HALL on and off.
22	**SURROUND ON/OFF**	Switches between the last selected surround mode and stereo.

REMOTE CONTROL

Remote control usage



Open the battery compartment of the remote control and insert 2 alkaline batteries, type **AA** (R06, UM-3).

Remove batteries if they are flat or if the remote control is not going to be used for a long time.

Batteries contain chemical substances, so they should be disposed of properly.

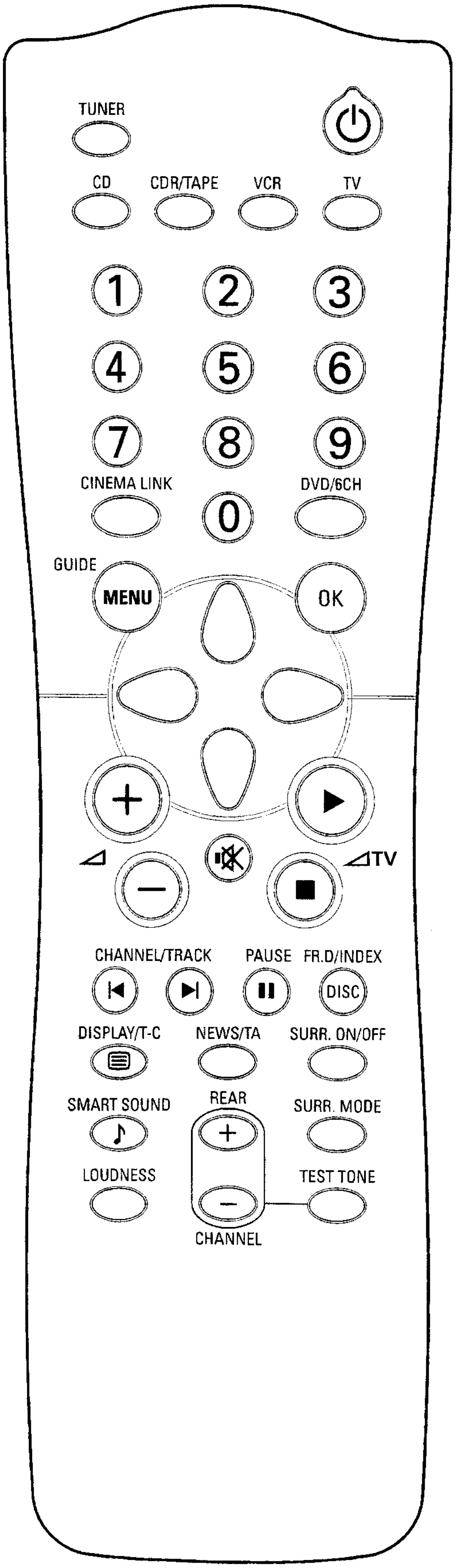
The buttons on the remote control work the same way as the corresponding ones on the receiver.

Additional appliances can only be controlled if they are working with the RC-5 and the RC-6 code system.

Important!

You have to press a source button for longer than 1 second to switch the sound source on the receiver. Pressing a source button for less than 1 second will only switch the remote control to use the commands for the selected product.

The remote control remains tuned to the selected source until another source button on the remote control is pressed. This enables you to operate additional sources (i. e. winding a tape) without changing the source on the receiver.

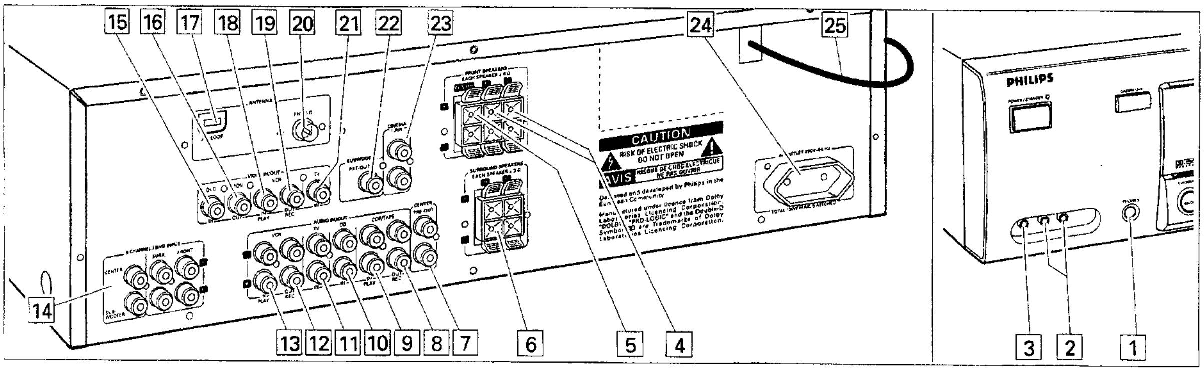

TUNER
CD
CDR/TAPE
VCR
TV
1
2
3
4
5
6
7
8
9
CINEMA LINK
0
DVD/6CH
GUIDE
MENU
OK
+
TV
CHANNEL/TRACK
PAUSE
FR.D/INDEX
DISC
DISPLAY/T-C
NEWS/TA
SURR. ON/OFF
SMART SOUND
REAR
SURR. MODE
+
LOUDNESS
TEST TONE
CHANNEL

INSTRUCTIONS FOR USE

Remote control buttons

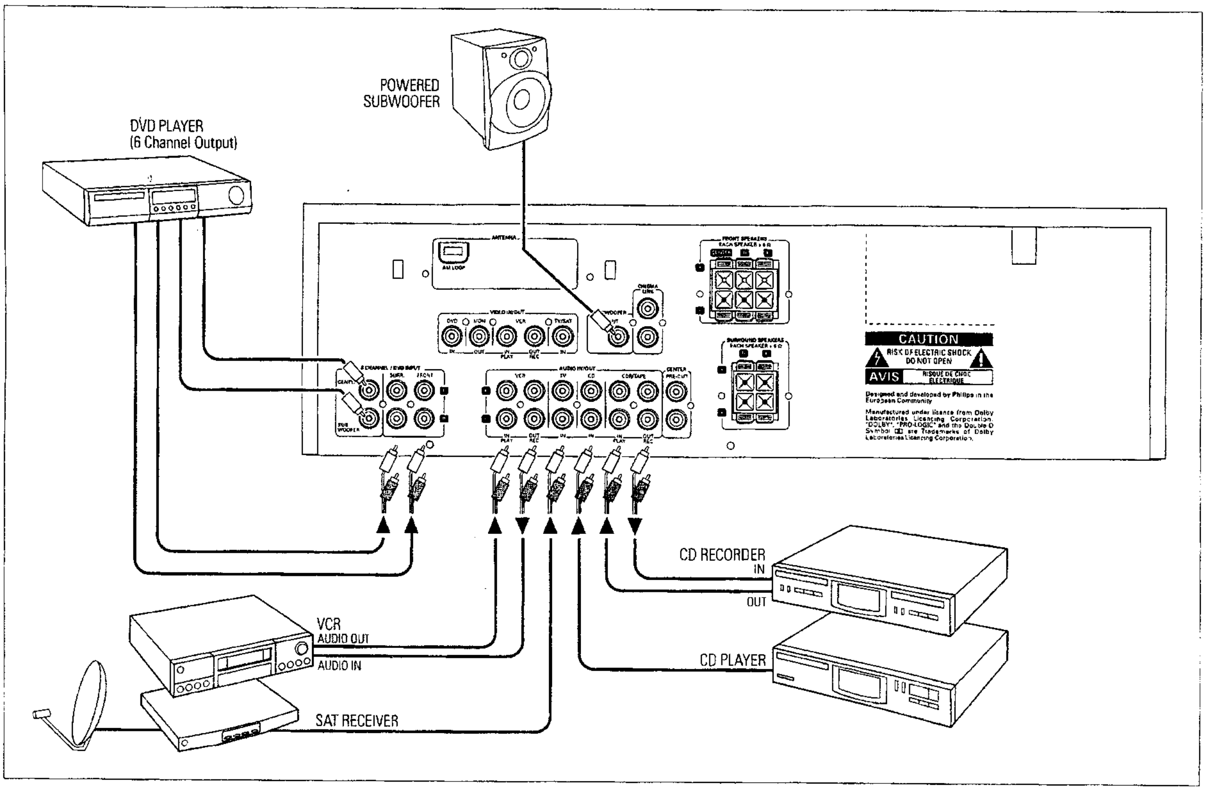
⏻	Switches the receiver to standby.
TUNER, CD, CDR/TAPE, TV, VCR, DVD/6CH	Switches the remote control to the commands of the different products. Selects the sources if pressed longer than 1 second.
1–0	Keys in numbers for tracks, stations or frequencies. Numbers consisting of two figures must be keyed in within 2 seconds.
CINEMA LINK	Switches the connection between the receiver and the TV on and off.
MENU GUIDE	**TUNER:** Switches the receiver menu on and off. **DVD, TV:** Switches the DVD/TV menu on and off.
OK	Confirms menu options.
Arrow buttons	**TUNER:** Moves in the menus. Right/left arrows are tuning up/down. **CD, CDR:** Left/right arrows are searching backwards/forwards, up/down arrows are selecting the next/previous track.
+ ⊿	Increases the receiver volume.
− ⊿	Decreases the receiver volume.
🔇	Mutes the sound of the receiver.
▶ ⊿TV	Increases the [illegible] volume. **CD, CDR, VCR, DVD:** Starts playback.
■ ⊿TV	Decreases the TV volume. **CD, CDR, VCR, DVD:** Stops playback.
⏮ CHANNEL/TRACK	Selects the previous preset tuner station. **VCR:** Rewinds the tape. **CD, CDR, DVD:** Selects the previous track. **TV:** Selects the previous channel.
⏭ CHANNEL/TRACK	Selects the next preset tuner station. **VCR:** Fast forwards the tape. **CD, CDR, DVD:** Selects the next track. **TV:** Selects the next channel.
❚❚ PAUSE	**CD, CDR, VCR, DVD:** Pauses playback.
DISC FR.D./INDEX	**CD-, CDR-, DVD-Changers:** Switches to the next disc. **TUNER:** Switches to FREQUENCY DIRECT. **VCR:** Switches the index search on and off.
▤ DISPLAY/T-C	**TUNER:** Switches between station name, frequency and radio text. **CD, CDR:** Switches between the different time displays. **TV:** Switches teletext on and off. **DVD:** Switches between title and chapter.
NEWS/TA	Switches the functions NEWS and TRAFFIC ANNOUNCEMENT on and off.
SURR. ON/OFF	Switches SURROUND SOUND on and off.
♪ SMART SOUND	Scrolls through the different smart sounds.
+/− REAR	Increases/decreases the volume of the rear speakers. While test tone is on, the volume of the speakers you are hearing can be increased/decreased with these buttons.
SURR. MODE	Scrolls through the different surround modes.
LOUDNESS	Switches LOUDNESS on and off.
TEST TONE	Switches the test tone on and off. While test tone is on, the volume of the speakers you are hearing can be increased/decreased with +/− REAR.

CONNECTORS

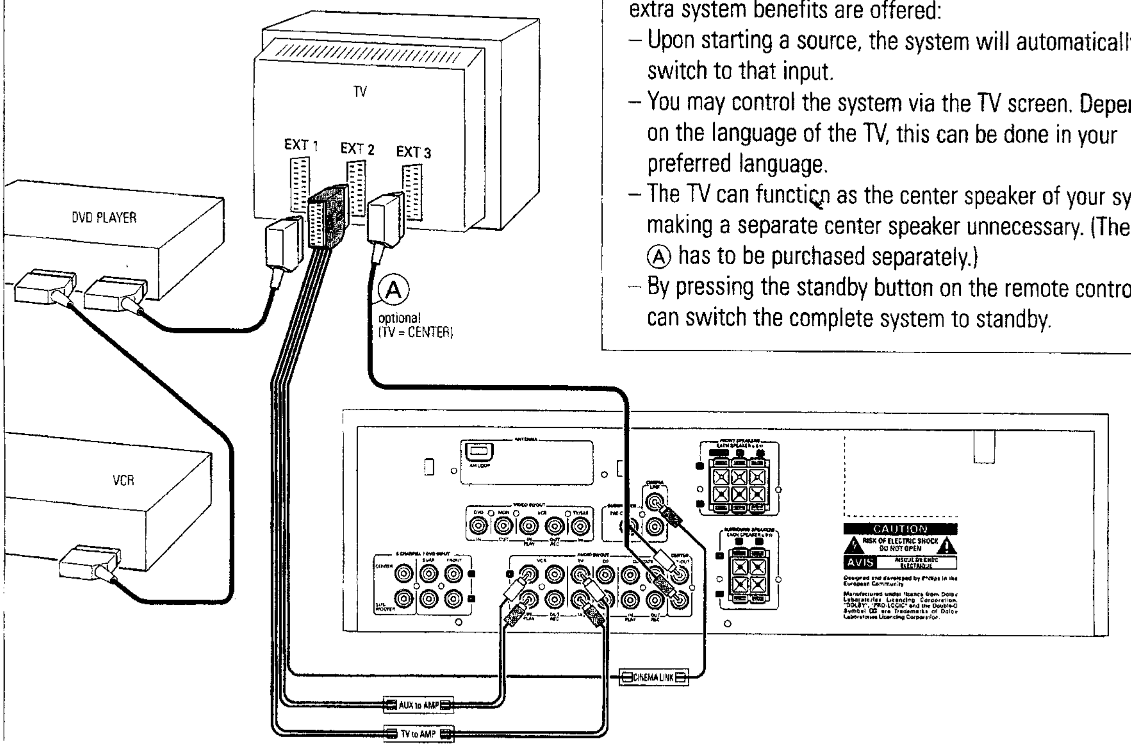


Connectors	**Connectors name**	**Connect to:**
6.3 mm headphone socket at the front	1 **PHONES**	A headphone with a 6.3 mm plug.
Audio and video inputs at the front (FR 760 only)	2 **FRONT AV / GAME**	Left and right audio out sockets of appliances such as video cameras and game consoles.
	3 **FRONT AV / GAME**	Video out sockets of appliances such as video cameras and game consoles.
FRONT SPEAKERS	4 **R, L**	Right and left front speaker.
	5 **CENTER**	Center speaker.
SURROUND SPEAKERS	6 **R, L**	Right and left surround speaker.
AUDIO IN/OUT	8 **CDR/TAPE OUT**	Input of a CD recorder or a tape deck.
	9 **CDR/TAPE IN**	Output of a CD recorder or a tape deck.
	10 **CD IN**	Output of a CD player.
	11 **TV IN**	Output of a TV.
	12 **VCR OUT**	Input of a video recorder.
	13 **VCR IN**	Output of a video recorder.
6-channel input	14 **6 CHANNEL/DVD INPUT**	6-channel output of appliances such as DVD or Laserdisc players.
VIDEO IN/OUT (FR 760 only)	15 **DVD IN**	Output of a DVD player.
	16 **MON OUT**	Input of a monitor (e. g. the TV).
	18 **VCR IN**	Output of a video recorder.
	19 **VCR OUT**	Input of a video recorder (for recording).
	21 **TV IN**	Output of a TV.
Antenna connectors	17 **AM LOOP**	Frame antenna supplied.
	20 **FM 75 Ω**	Wire antenna supplied or exterior antenna.
Preamplified outputs	7 **CENTER PRE-OUT**	Input of a TV when it is used as the center speaker (only possible when the CINEMA LINK system bus is connected).
	22 **SUBWOOFER PRE-OUT**	Input of a powered subwoofer.
System control bus	23 **CINEMA LINK**	System control bus sockets of a Philips TV with CINEMA LINK.
Mains outlet	24 **AC OUTLET**	Supplies same voltage as mains. Up to 100 W total permitted load.
Mains lead	25	***After all other connections have been made***, connect the mains lead to the wall socket.

Audio connections


POWERED SUBWOOFER
DVD PLAYER (6 Channel Output)
CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
AVIS
CD RECORDER
IN
OUT
CD PLAYER
VCR
AUDIO OUT
AUDIO IN
SAT RECEIVER

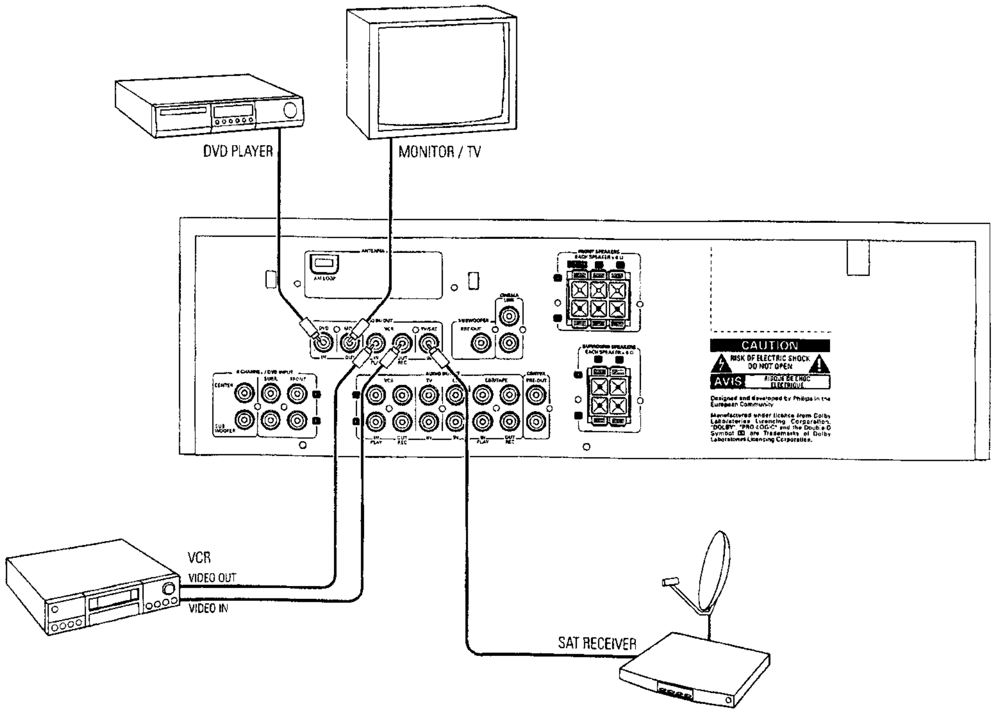
System control bus, CINEMA LINK


TV
EXT 1
EXT 2
EXT 3
DVD PLAYER
VCR
Ⓐ
optional
(TV = CENTER)
CAUTION
AVIS
CINEMA LINK
AUX to AMP
TV to AMP

If the receiver and your Philips TV (or even better in addition a Philips VCR or DVD player) with Cinemalink are connected with the CINEMA LINK system bus control, some extra system benefits are offered:

- Upon starting a source, the system will automatically switch to that input.
- You may control the system via the TV screen. Depending on the language of the TV, this can be done in your preferred language.
- The TV can function as the center speaker of your system, making a separate center speaker unnecessary. (The cable Ⓐ has to be purchased separately.)
- By pressing the standby button on the remote control you can switch the complete system to standby.

Video connections (FR 760 only)


DVD PLAYER
MONITOR / TV
CAUTION
AVIS
VCR
VIDEO OUT
VIDEO IN
SAT RECEIVER

CONNECTIONS

Mains

The type plate is located on the rear of the receiver.

1 Check whether the mains voltage as shown on the type plate corresponds to your local mains voltage. If it does not, consult your dealer or service organization.

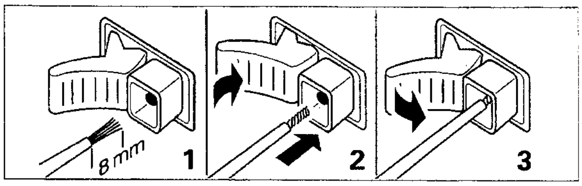
2 Connect the mains cable to the wall socket.

To disconnect the set from the mains completely, remove the mains plug from the wall socket.

For users in the U. K.: please follow the instructions on page 2.

Speaker connections

The speaker connections on the receiver are click-fit connectors. Use them as shown below.



1 Always connect the coloured (or marked) wire to the coloured terminal and the black (or unmarked) wire to the black terminal.

2 Connect:
- Left front speaker to L (red and black)
- Right front speaker to R (red and black)
- Center speaker to CENTER (blue and black)
- Left surround speaker to SURROUND L (grey and black)
- Right surround speaker to SURROUND R (grey and black)

TV as the center speaker

You may use your Philips TV with CINEMA LINK as the center speaker. For TVs with a scart connector an additional audio cinch-to-scart cable is needed. For TV's with cinch connectors additional cinch cables are needed. Look into the instruction manual of your TV on how to use it as the center speaker.

Antenna connections

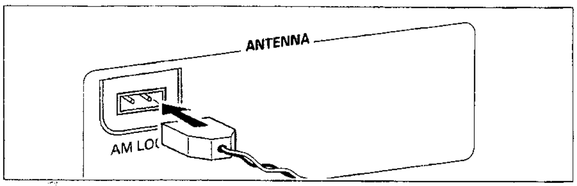
AM (MW) antenna

The loop antenna supplied is for indoor use only. Position the antenna as far away as possible from the receiver, the TV, the cables, a DVD player, a VCR and other radiation sources.

1 Fit the plug of the frame antenna to AM LOOP as shown below.

2 Position the antenna as far away as possible from radiation sources.

3 Turn the antenna for optimum reception.



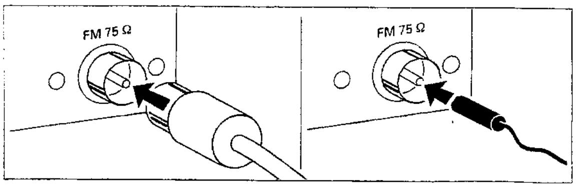
FM antenna

The wire antenna supplied can only be used to receive nearby stations. For better reception we recommend using a cable antenna system or an outdoor antenna.

1 Fit the supplied wire antenna to FM 75 Ω as shown below.

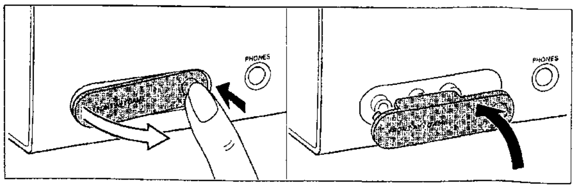
2 Move the antenna in different positions for optimum reception.

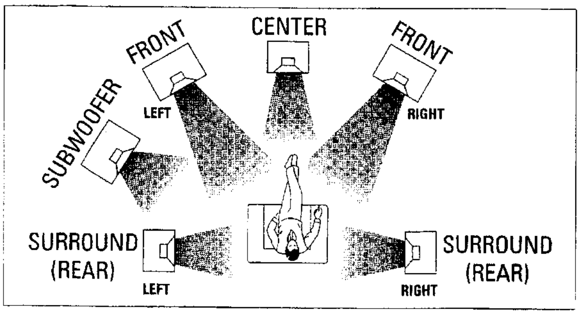
- If you are using a cable antenna system or an outdoor antenna, fit the antenna plug to FM 75 Ω instead of the wire antenna.



FRONT AV / GAME cap (FR 760 only)

- To remove the FRONT AV / GAME cap, press on the right side of the cap.
- Insert the cap from below to close the compartment.





Positioning of the speakers

General hints for positioning
Avoid positioning the speakers in a corner or on the floor as this will boost the bass tones too much. Placing the speakers behind curtains, furniture, etc. will reduce the treble response. The listener should always be able to "see" the speakers.

Each room has different acoustic characteristics and the positioning possibilities are often limited. You can find the best position for your speakers by referring to the picture above.

As a minimum we recommend 5 speakers (2 front, a center, 2 surround) for good surround sound. It is possible to reproduce some kind of surround sound with fewer speakers. This is done by redirecting the signals which are foreseen for the missing speakers to the existing ones. See "Menus" on how to set up the receiver correctly for the number and size of the speakers used.

Positioning the front speakers
The front speakers should be placed right and left in front of the listening position like usual stereo speakers.

Positioning the center speaker
The center speaker should be placed in the center between the two front speakers, e. g. underneath or on top of the TV. The best height for the center speaker is the height of the listener's ears (while seated).

Positioning the surround speakers
The surround speakers should face each other and be in line with, or slightly behind the listener.

Positioning the subwoofer
A subwoofer can be used to enhance the bass performance of your system dramatically. The subwoofer can be positioned anywhere in the room, because it is not possible to locate the source of deep tones. Nevertheless, you should not place the subwoofer in the middle of a room, since the bass could be severely weakened. Do not place any object on the subwoofer.

Speaker setup and testing

The relative volume of the speakers must be adjusted for optimal surround sound. You should be at your usual listening position when adjusting the speaker volume. See "Receiver menus" on how to set up the receiver for the used speakers. Ideally, the volume in the listening position should be the same from all speakers.

1 Press POWER / STANDBY to switch on the receiver.

2 Press TEST TONE on the remote control.
→ A test tone coming from the different speakers is heard.

3 Press + / − REAR on the remote control to increase/decrease the volume of the actual speaker.

4 Press TEST TONE on the remote control.
→ The test tone stops.

Note: If you are not completely satisfied with the volume settings, we recommend making minor adjustments to them during surround sound playback.

Power handling

If the receiver is used at very high power, it can produce distortions which may seriously damage your speakers.
If distortions occur, reduce the volume and the tone controls to a level where the sound is acceptable again.

To avoid overheating of the set a safety circuit has been built in. Therefore your set may disconnect under extreme conditions. If this happens, switch the set off and let it cool down before reusing it.

Headphones

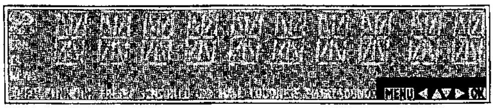
Connecting headphones to PHONES will switch off the speakers. The receiver switches to STEREO and surround sound will be reduced to a stereo signal which is reproducible by standard headphones.

Disconnecting the headphones switches on the speakers again. If you wish to enjoy surround sound again, switch the receiver back to surround sound.

Display

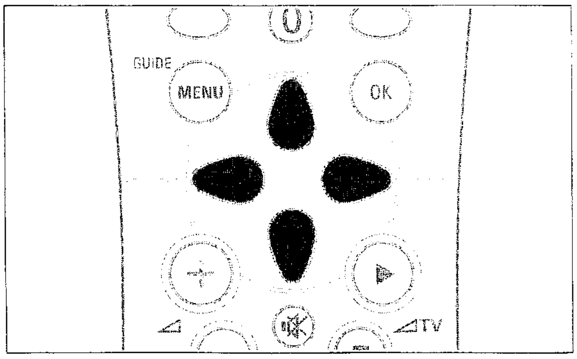
The display of the receiver is divided into 3 sections, which are to be used for the following:

Menu indication

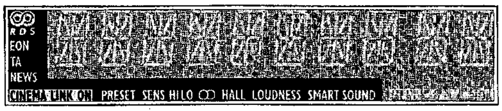


These signs show you if the menu is on or off and indicate in which direction you may move.

MENU	Menu is on.
◀	You may move backwards to the previous menu topic using ◀ PREV. / EXIT ("left" key on the remote control).
▲	You may move up in an option list using ▲▼ MENU NAVIGATOR ("up" key on the remote control).
▼	You may move down in an option list using ▲▼ MENU NAVIGATOR ("down" key on the remote control).
▶	You may move forward to the next menu topic using NEXT ▶ ("right" key on the remote control).
OK	You may confirm the displayed value.



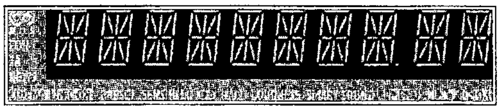
Status lights



Signs showing you various settings and information about the status of the receiver.

PRESET	Tuner is tuned to a preset radio station.
SENS HI	Tuner is switched to high sensitivity.
SENS LO	Tuner is switched to low sensitivity.
CINEMA LINK ON	CINEMA LINK is active.
ꝏ	An FM station is being received in stereo.
SMART SOUND	One of the preset sound settings of the receiver is being used.
RDS	An RDS station is being received.
EON	An RDS station with EON is being received.
HALL	HALL effect is on.
TA	RDS traffic announcement is on.
NEWS	RDS news announcement is on.
LOUDNESS	LOUDNESS is switched on.

Information area



This area is used for feedback of the receiver, tuner frequencies, menu options, values and scrolling text messages.

Receiver menu

The receiver is equipped with a menu system. The menu is used for the setup of the receiver. The different menu options are related to each other in a logical way. Let's assume you have no center speaker connected, and therefore switched CENTER LS to NO. If you try to use VOL CENTER, a message will be scrolled that this is not possible (INSTALL CENTER SPEAKER).

The menu always works the same way. Arrows in the display show you the possible moving directions.

1 Press SETUP MENU.
→MENU, and * VOL BAL is displayed.

- **You can exit the menu at any time by pressing SETUP MENU.**

2 Turn ♦ MENU NAVIGATOR until the desired option (or a value) is displayed.

3 Press NEXT ▶ to choose the displayed option (or ENTER / OK to confirm a value).

- You can leave any option (values remain unchanged) by pressing ◀ PREV. / EXIT.

Menu structure

* VOL BAL
Adjusts the relative volume balance between the connected speakers.
- TEST TONE
  Test tone: on/off
- VOL FR-L
  Volume front left speaker: –50...+50
- VOL FR-R
  Volume front right speaker: –50...+50
- VOL CENTER
  Volume center speaker: –50...+50
- VOL REAR-L
  Volume rear left speaker: –50...+50
- VOL REAR-R
  Volume rear right speaker: –50...+50
- VOL SUBW
  Volume subwoofer: –50...+50

* LS SETUP
Selects the used speakers. Chooses the speaker sizes of the used speakers, for optimal sound reproduction.
The distance between the usual listening position and the speakers defines the delay time for the surround sound.

Note: When using the 6 CHANNEL / DVD IN *input, these values cannot be changed.*

- CENTER LS
  Center speaker present: yes/no
- REAR LS
  Rear speakers present: yes/no
- CENTR SIZE
  Center speaker: small/large
- DIST L/R
  Distance to front speakers: 1...10 m
- DIST REAR
  Distance to rear speakers: 1...10 m

* TUNER
Setup for preset radio stations (see "TUNER" for details).
- AUTO INST
  Stores radio stations automatically
- MAN INST
  Stores radio stations manually
- GIVE NAME
  Allows to assign names to stored radio stations
- RESHUFFLE
  Resorts stored radio stations

TV menu

If the receiver is connected to a Philips CINEMA LINK TV via the CINEMA LINK system control bus sockets (see "CONNECTIONS"), you may use the TV to set up the system. An option called RECEIVER will be added to the TV menu.

If CINEMA LINK is on, adjustments on the receiver will be shown on the TV screen for a few seconds. Consult the instruction booklet of your TV on how to use the TV menu. The options offered may vary by TV model.

Switching the connection

- Press CINEMA LINK to switch the connection between the receiver and the TV either on or off.
  →If the connection is switched on, **CINEMA LINK ON** is displayed.

Note: We recommend switching CINEMA LINK *off during recording. This avoids unwanted interruptions due to switching TV functions.*

If CINEMA LINK is switched on and the TV menu is active, TV MENU is displayed and the menu and sound functions on the receiver are locked.

SOURCE SELECTOR

When selecting a source by turning SOURCE SELECTOR, the audio inputs – and video inputs (FR 760 only) – with the corresponding name are activated. The incoming signal is reproduced by all audio and – if the source includes a video signal – video outputs of the receiver.

Source selected	**Connectors used**
6 CH / DVD	6 CHANNEL / DVD INPUT audio input and DVD IN video input (FR 760 only)
TUNER	The tuner part of the receiver is used, all inputs are switched off.
CD	CD IN audio input
CDR/TAPE	CDR/TAPE IN audio input
TV	TV IN audio input and TV IN video input (FR 760 only)
VCR	VCR IN audio input and VCR IN video input (FR 760 only)

About 6 CHANNEL / DVD INPUT

The 6 CHANNEL / DVD INPUT can be used to connect a device with a built-in multichannel decoder (e.g. Dolby Digital, DTS, etc.) and 6-channel output connector, i. e. a high end DVD player.

When using the 6 CHANNEL / DVD INPUT audio input, the receiver works as a multichannel amplifier. The source reproduces surround sound and sends it to the receiver divided into the necessary channels. Therefore the SURROUND ON/OFF, HALL and SURR. MODE button have no effect since the provided signal is already multichannel.

From a source which is connected to the 6 CHANNEL / DVD INPUT audio input cannot be recorded.

Playing a source

1 Press POWER / STANDBY to switch on the receiver.

2 Turn SOURCE SELECTOR to select a source.
→The name of the source is displayed.

- You can select the FRONT AV/GAME input by pressing FRONT AV (FR 760 only).

3 Start playback of the source as usual.

Adjusting the sound

- Turn VOLUME to adjust the volume.
  →VOLUME and the volume level between 0 and 50 is displayed.

1 Press BASS or TREBLE.
→BASS or TREBLE and the actual value are displayed briefly. Then TURN VOLUME KNOB TO CHANGE is scrolled.

2 Turn VOLUME to adjust the bass or treble.
→BASS or TREBLE and the actual value are displayed.

Note : If VOLUME *is not turned within 5 seconds or if any other control is used, the bass or treble adjustment is switched off.*

- Press ♪ SMART SOUND on the remote control to scroll through the built-in smart sounds: MOVIE, SPEECH, MUSIC, MULTIMEDIA and PERSONAL. (PERSONAL is the userdefined bass and treble setting.)
  →**SMART SOUND** is displayed and the name of the chosen sound profile is scrolled once if smart sound is on.

- Press LOUDNESS to switch loudness either on or off.
  →**LOUDNESS** is displayed if loudness is on.

Recording from a source

If you wish to record from a source you must select it with SOURCE SELECTOR. The incoming signal is reproduced by all audio and – if the source includes a video signal – video outputs of the receiver. The sound settings do not affect the recording.

1 Turn SOURCE SELECTOR (or press FRONT AV – FR 760 only) to select the source you want to record from.
→The name of the source is displayed.

2 Prepare the desired recording appliance. It must be connected to one of the outputs of the receiver.

3 Start recording on the recording appliance.

4 Start the playback of the source as usual.

Notes: – The audio and video signal of VCR IN *is not reproduced by* VCR OUT. *The same applies to the audio signal of* CDR/TAPE IN to CDR/TAPE OUT.
– From a source which is connected to the 6 CHANNEL / DVD IN *audio input cannot be recorded.*

SURROUND SOUND

About surround sound

Surround sound gives you a complete new listening sensation. You will have the feeling of being in the middle of the action, because sound is coming from everywhere around you. Look out for TV broadcasts, audio and video tapes and discs with the DD DOLBY SURROUND or DD DOLBY DIGITAL marks which are encoded for multichannel surround sound.

Notice that DVD discs do not always carry full multichannel surround. To be sure that a disc is multichannel encoded consult your dealer.

Most ordinary stereo tapes and discs can be replayed using surround sound settings with good results. If the reproduction is distorted in surround mode, switch to normal stereo mode.

The availabilty of the various surround sound modes described depends on the number of speakers used and the incoming sound information.

Switching surround sound

With surround sound on, you can switch through the different surround modes. Note that the possibilities are related to speaker setup defined in the receivers menu.

1 Press SURROUND ON/OFF to switch on the surround sound.
→The surround mode in use is scrolled.

2 Press SURR. MODE repeatedly to listen to the different surround modes (if available).
→The surround mode in use is scrolled.

3 Press HALL to switch hall either on or off.
→**HALL** is displayed if hall is on.

4 Press SURROUND ON/OFF to switch off the surround sound.
→SURROUND OFF is scrolled.

Note: Switching surround sound has no effect when using the 6 CHANNEL / DVD IN *input.*

Surround sound settings

HALL
The sound reproduction is enhanced and a slight echo is added. This gives the impression of being in a large room.

SURROUND (PRO LOGIC)
The surround mode enables normal surround sound reproduction with 4 or 5 speakers.

FRONT-3 STEREO (PRO LOGIC)
The surround sound is muted. 3 Stereo lets you listen to surround sound without using the surround speakers.

STEREO
All sound is reproduced and played through the front left and right speakers. This enables standard stereo reproduction.

Tuning to radio stations

You can search for radio stations by scanning the frequency band. You can also key in the frequency of a known radio station. If an FM station is being broadcast and received in stereo, ꝏ is shown.

Searching for radio stations

1 Turn SOURCE SELECTOR to select the tuner.
→TUNER is displayed.

2 Select a waveband by pressing TUNER AM/FM repeatedly.
→The selected waveband is displayed.

3 Keep ◀ or ▶ pressed for approximately 1 second.
→SEARCH is displayed and the tuner tunes to a station with sufficient strength.

4 Repeat this procedure until you find the desired station.

- To fine tune to a weak transmitter, briefly press ◀ or ▶ as often as necessary for optimum reception.

Tuning to a radio station by frequency (with the remote control only)

1 Press TUNER.
→TUNER is displayed.

2 Press FR. D..
→_ is displayed.

3 Use 1–0 to key in the frequency of a radio station.

Note: Only valid numbers within the frequency range of the tuner can be keyed in.

Switching FM sensitivity

You can switch the tuner to a lower search sensitivity, to search for stations with a strong signal only (FM only).

1 Turn SOURCE SELECTOR to select the tuner.
→TUNER is displayed.

2 Press SENS. on the receiver.
→Either **SENS HI** or **SENS LO** is displayed for 5 seconds.

Note: While searching for radio stations, the actual sensitivity is displayed. In this case, **SENS LO** *means the tuner is only looking for radio stations with a strong signal.*

Storing radio stations

You may store up to 30 radio stations in the memory. The receiver can select and program radio stations by itself or you can choose them yourself.

Automatic programming

1 Choose * TUNER from the menu and press NEXT ▶.

2 Choose AUTO INST and press NEXT ▶.
→The preset number where programming will start, the waveband and AUTO are displayed.

3 Turn TUNER PRESET ▲▼ to change the preset number where programming should start.

4 Use TUNER AM/FM to switch to the desired waveband.

5 Press ENTER / OK to start programming.
→AUTO INST flashes and all available radio stations are programmed, this may take a few minutes. Programming is done when AUTO INST stops flashing.

Manual programming

1 Choose * TUNER from the menu and press NEXT ▶.

2 Choose MAN INST and press NEXT ▶.
→A preset number, the waveband and the frequency are displayed.

3 Turn TUNER PRESET ▲▼ to change to the preset number where the radio station should be stored.

4 Tune to the desired radio station (see "Searching for radio stations").

5 Press ENTER / OK to confirm your selection.
→STORED is displayed briefly. The radio station is programmed at the chosen preset number.

6 Select and store all desired radio stations this way.

Tuning to stored radio stations

1 Turn SOURCE SELECTOR to TUNER to select the tuner.
  ➜TUNER is displayed.

2 Turn TUNER PRESET ▲▼ to select a preset radio station.
  ➜**PRESET**, the preset number and station are displayed.

Resorting stored radio stations

After programming radio stations, you might want to change their sequence. RESHUFFLE allows you to exchange the positions of presets.

1 Choose * TUNER from the menu and press NEXT ▶.

2 Choose RESHUFFLE and press NEXT ▶.
  ➜**PRESET**, a preset number and station are displayed.

3 Turn TUNER PRESET ▲▼ to select a preset station.

4 Press ENTER / OK to confirm the selection.
  ➜The selected preset number (-) and a second preset number are displayed.

5 Turn TUNER PRESET ▲▼ to select the other preset station.

6 Press ENTER / OK to confirm the exchange.
  ➜RESHUFFLED is displayed briefly and these two preset numbers are swapped.

Naming radio stations

It is possible to assign a name to any of the preset radio stations. RDS station names also can be overwritten.

1 Choose * TUNER from the menu and press NEXT ▶.

2 Choose GIVE NAME and press NEXT ▶.
  ➜A preset radio station is displayed.

3 Turn TUNER PRESET ▲▼ to select the preset to be renamed.

4 Press ENTER / OK to confirm your selection.
  ➜The existing name or ________ is displayed.

5 Turn TUNER PRESET ▲▼ to select a letter and NEXT ▶ or ◀ PREV. to move to the next or previous position.

6 After you have entered the entire name, press ENTER / OK to confirm.
  ➜STORED is displayed and the name is stored.

Note: If you want to use the transmitted RDS station name again, simply clear the given name.

Clearing station names

1 Use the menu option * TUNER, choose GIVE NAME.
  ➜A preset radio station is displayed.

2 Turn ▲▼ MENU NAVIGATOR to select the name to be cleared.

3 Press ENTER / OK to confirm your selection.

4 Press ◀ PREV. while the first letter is flashing.
  ➜ CL is flashing to the left of the station name.

5 Press ENTER / OK to clear the station name.
  Or, if you have changed your mind,
  press ◀ PREV. to leave the station name as it is.

RDS

Radio **D**ata **S**ystem is a service that allows FM stations to send additional information. If you are receiving an RDS station, and the station name are displayed.

Switching through different RDS information

- Press RADIO TEXT on the receiver repeatedly to switch through the following information (if available):
  - – Radio text messages
  - – RDS clock
  - – Frequency
  - – Station name

Note: The time signal broadcasted from certain radio stations may not always be accurate.

RDS News and Traffic Announcement

It is possible to set up the tuner in such a way that any playback is interrupted by news or traffic information of a chosen RDS station. Announcement functions only work if the necessary RDS signals are being broadcast.

If RDS stations are also carrying an EON signal (**E**nhanced **O**ther **N**etworks), **EON** is displayed. This signal enables the tuner to search not only the chosen RDS station, but the whole EON station network for news and traffic information.

1 Tune to the desired RDS station.

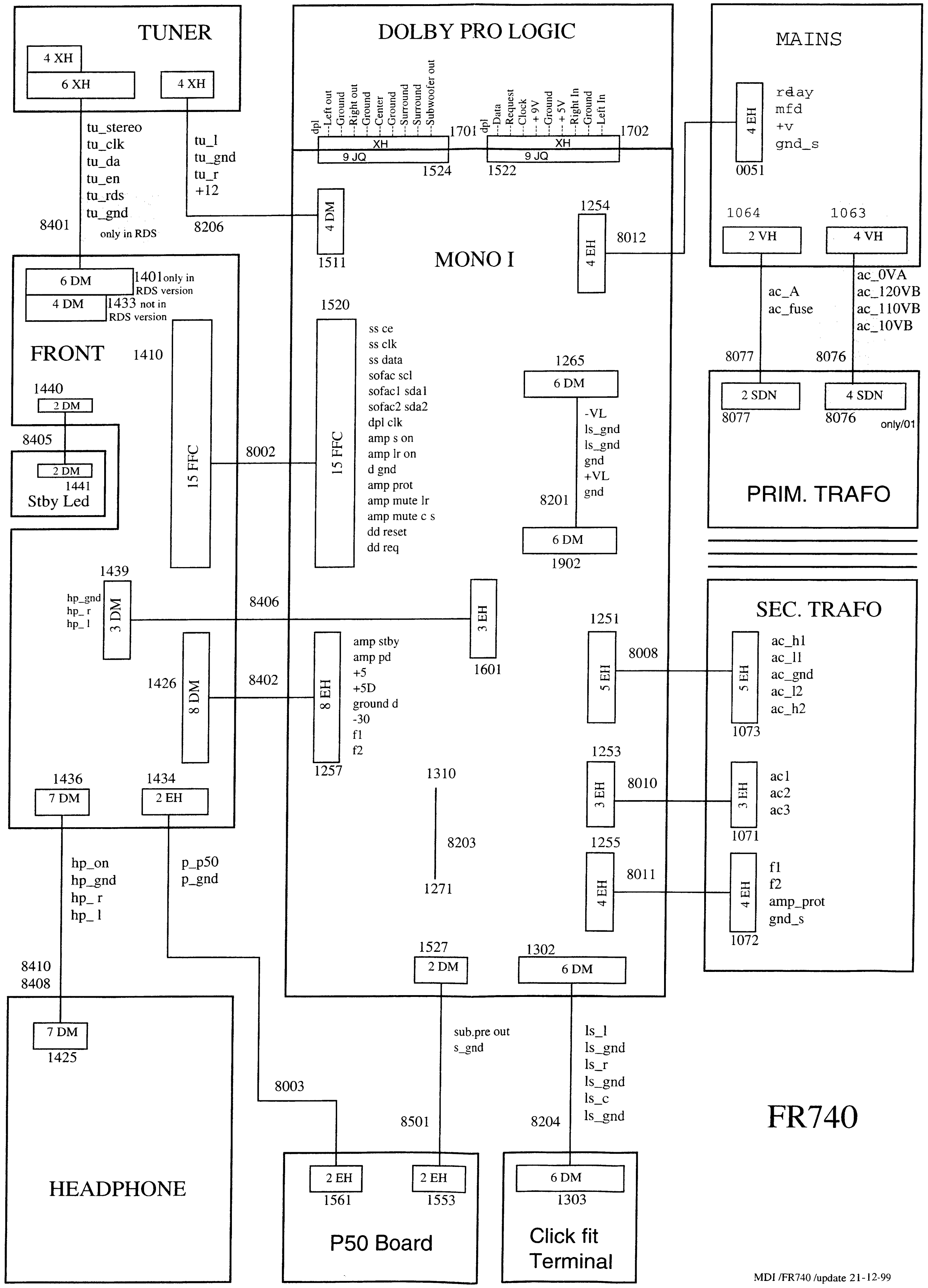
2 Press NEWS/TA:
Once to display **NEWS**, this switches on the news announcement function.
Twice to display **TA**, this switches on the traffic announcement function.
Three times to display **TA** and **NEWS**, this switches on both announcement functions.

3 Select and play any other source as usual.
→ While news or traffic information is being broadcast the receiver will switch to tuner and **NEWS** or **TA** will flash.

4 Press NEWS/TA until the display indication disappears to switch off the function(s).
or
Press NEWS/TA during an announcement to switch off the function(s).

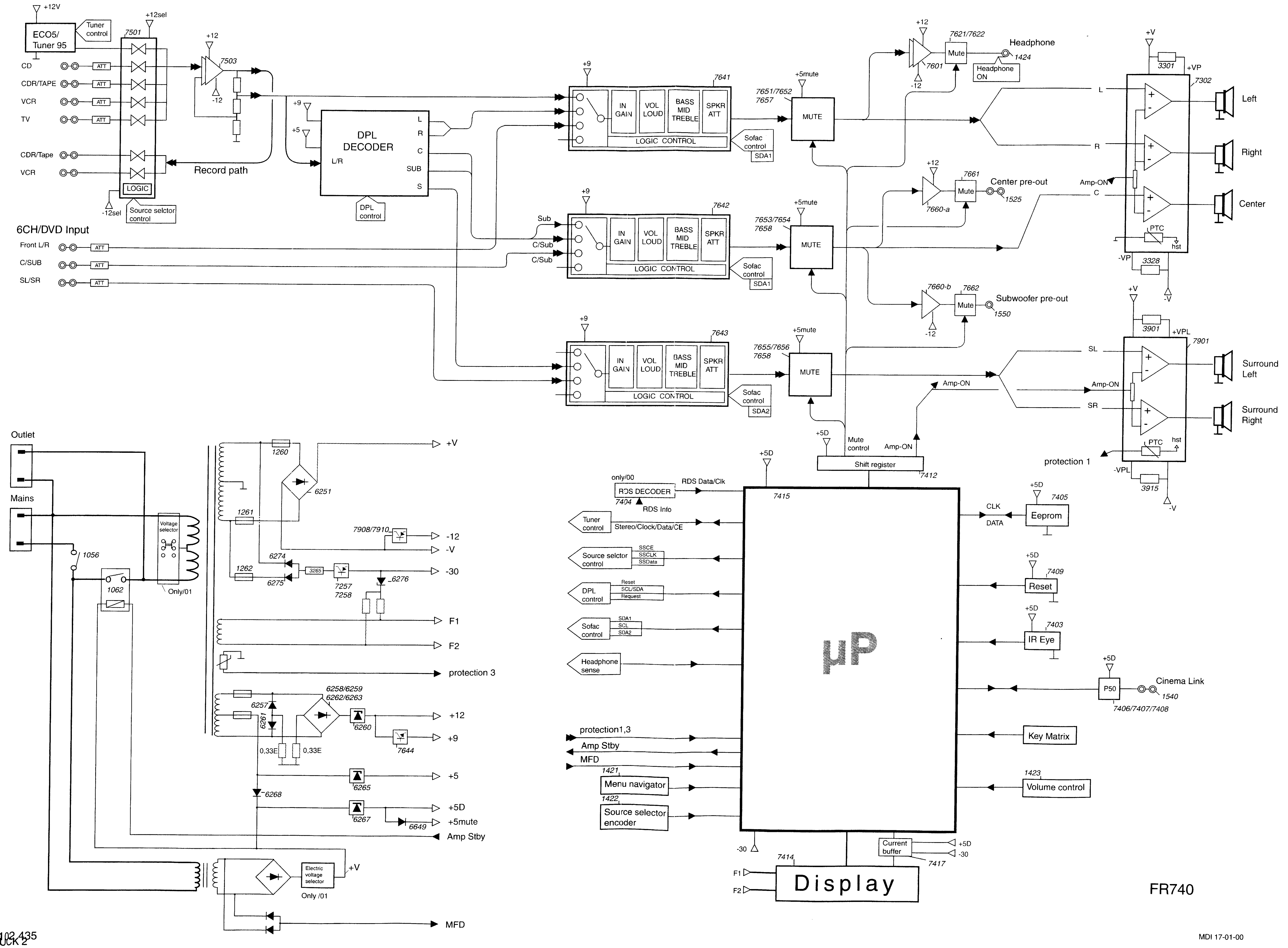
Note: Be sure to switch the news and traffic announcement off during recording, otherwise these announcements will also be recorded.

WIRING DIAGRAM


TUNER
4 XH
6 XH
4 XH
tu_stereo
tu_clk
tu_da
tu_en
tu_rds
tu_gnd
only in RDS
8401
tu_l
tu_gnd
tu_r
+12
8206
DOLBY PRO LOGIC
dpl
Left out
Ground
Right out
Ground
Center
Ground
Surround
Surround
Subwoofer out
1701
XH
9 JQ
1524
dpl
Data
Request
Clock
+ 9V
Ground
+ 5V
Right In
Ground
Left In
1702
XH
9 JQ
1522
MAINS
4 EH
relay
mfd
+v
gnd_s
0051
1064
2 VH
1063
4 VH
ac_A
ac_fuse
ac_0VA
ac_120VB
ac_110VB
ac_10VB
8077
8076
2 SDN
4 SDN
8077
8076
only/01
PRIM. TRAFO
4 DM
1511
MONO I
1254
4 EH
8012
FRONT
6 DM
1401 only in RDS version
4 DM
1433 not in RDS version
1410
15 FFC
1440
2 DM
8405
2 DM
1441
Stby Led
8002
1520
15 FFC
ss ce
ss clk
ss data
sofac scl
sofac1 sda1
sofac2 sda2
dpl clk
amp s on
amp lr on
d gnd
amp prot
amp mute lr
amp mute c s
dd reset
dd req
1265
6 DM
-VL
ls_gnd
ls_gnd
gnd
+VL
gnd
8201
6 DM
1902
1439
hp_gnd
hp_ r
hp_ l
3 DM
8406
3 EH
1601
1426
8 DM
8402
8 EH
amp stby
amp pd
+5
+5D
ground d
-30
f1
f2
1257
1310
8203
1271
1251
5 EH
8008
1253
3 EH
8010
1255
4 EH
8011
SEC. TRAFO
5 EH
ac_h1
ac_l1
ac_gnd
ac_l2
ac_h2
1073
3 EH
ac1
ac2
ac3
1071
4 EH
f1
f2
amp_prot
gnd_s
1072
1436
7 DM
1434
2 EH
hp_on
hp_gnd
hp_ r
hp_ l
p_p50
p_gnd
8410
8408
7 DM
1425
HEADPHONE
1527
2 DM
1302
6 DM
sub,pre out
s_gnd
ls_l
ls_gnd
ls_r
ls_gnd
ls_c
ls_gnd
8003
8501
8204
2 EH
1561
2 EH
1553
P50 Board
6 DM
1303
Click fit Terminal
FR740

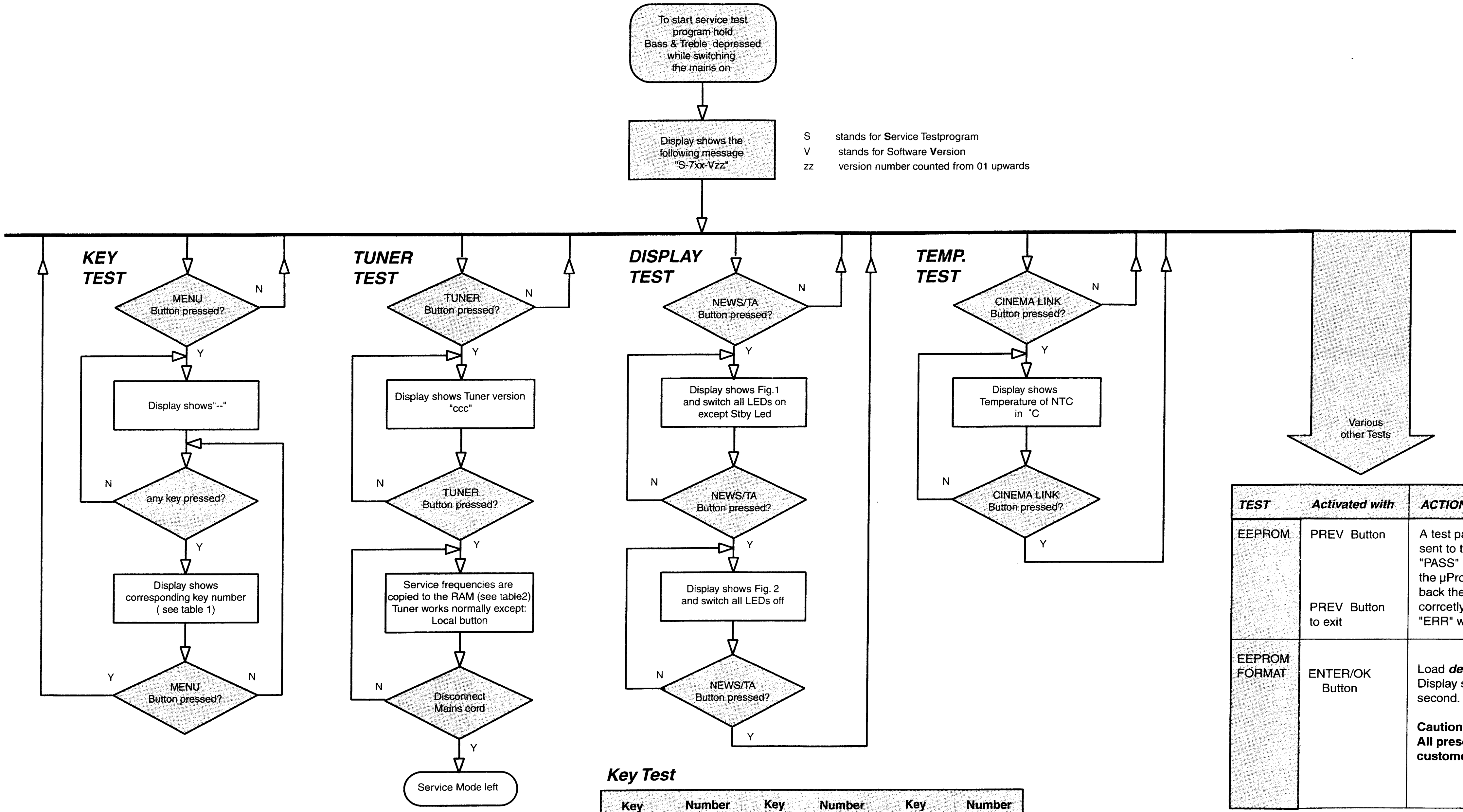
MDI /FR740 /update 21-12-99

BLOCKDIAGRAM



+12V
ECO5/ Tuner 95
Tuner control
+12sel
7501
CD
CDR/TAPE
VCR
TV
CDR/Tape
VCR
ATT
LOGIC
-12sel
Source selctor control
+12
7503
-12
Record path
+9
+5
DPL DECODER
L/R
L
R
C
SUB
S
DPL control
6CH/DVD Input
Front L/R
C/SUB
SL/SR
+9
7641
7642
7643
Sub
C/Sub
C/Sub
IN GAIN
VOL LOUD
BASS MID TREBLE
SPKR ATT
LOGIC CONTROL
Sofac control
SDA1
SDA1
SDA2
+5mute
7651/7652
7657
7653/7654
7658
7655/7656
7658
MUTE
+12
7621/7622
Mute
Headphone
1424
7601
-12
Headphone ON
+12
7661
Center pre-out
1525
7660-a
7660-b
7662
Subwoofer pre-out
1550
-12
+V
3301
+VP
7302
L
R
C
Amp-ON
Left
Right
Center
PTC
hst
-VP
3328
-V
+V
3901
+VPL
7901
SL
SR
Amp-ON
Surround Left
Surround Right
PTC
hst
protection 1
-VPL
3915
-V
+5D
Mute control
Amp-ON
Shift register
7412
+5D
only/00
RDS DECODER
7404
RDS Data/Clk
RDS Info
7415
Tuner control
Stereo/Clock/Data/CE
Source selctor control
SSCE
SSCLK
SSData
DPL control
Reset
SCL/SDA
Request
Sofac control
SDA1
SCL
SDA2
Headphone sense
µP
+5D
7405
CLK
DATA
Eeprom
+5D
7409
Reset
+5D
7403
IR Eye
+5D
P50
Cinema Link
1540
7406/7407/7408
Key Matrix
1423
Volume control
protection1,3
Amp Stby
MFD
1421
Menu navigator
1422
Source selector encoder
-30
7414
F1
F2
Display
Current buffer
+5D
-30
7417
Outlet
Mains
1056
Voltage selector
1062
Only/01
1260
6251
+V
1261
7908/7910
-12
-V
6274
1262
6275
3265
7257
7258
6276
-30
F1
F2
protection 3
6258/6259
6262/6263
6257
6261
6260
+12
7644
+9
0,33E
0,33E
6265
+5
6268
6267
+5D
6649
+5mute
Amp Stby
Electric voltage selector
+V
Only /01
MFD
FR740

SERVICE TEST PROGRAM


To start service test program hold Bass & Treble depressed while switching the mains on
Display shows the following message "S-7xx-Vzz"
KEY TEST
MENU Button pressed?
N
Y
Display shows"--"
N
any key pressed?
Y
Display shows corresponding key number (see table 1)
Y
MENU Button pressed?
N
TUNER TEST
TUNER Button pressed?
N
Y
Display shows Tuner version "ccc"
N
TUNER Button pressed?
Y
Service frequencies are copied to the RAM (see table2) Tuner works normally except: Local button
N
Disconnect Mains cord
Y
Service Mode left
DISPLAY TEST
NEWS/TA Button pressed?
N
Y
Display shows Fig.1 and switch all LEDs on except Stby Led
N
NEWS/TA Button pressed?
Y
Display shows Fig. 2 and switch all LEDs off
N
NEWS/TA Button pressed?
Y
TEMP. TEST
CINEMA LINK Button pressed?
N
Y
Display shows Temperature of NTC in °C
N
CINEMA LINK Button pressed?
Y
Various other Tests

S stands for Service Testprogram
V stands for Software Version
zz version number counted from 01 upwards

TEST	*Activated with*	*ACTION*
EEPROM	PREV Button PREV Button to exit	A test pattern will be sent to the Eeprom. "PASS" is displayed if the µProcessor read back the test pattern corrcetly, otherwise "ERR" will be displayed.
EEPROM FORMAT	ENTER/OK Button	Load ***default data.*** Display shows"NEW" for 1 second. **Caution!** **All presets from the customer will be Lost**

Default Data

Source =Tuner---Mode=stereo---Volume=10
SubwooferVol=0---Left Volume=0---Center Volume=0
Righ Volume=0---RearL Volume=0---RearR Volume=0
Bass=0---Treble=0---Loudness=Off---Smart Sound=Personal
Center Present=Yes---Rear Present=Yes
Center Size=Small---Rear Size=Small
Front Dist = 4 meter---Rear Dist = 2 meter

Key Test

Key	Number	Key	Number	Key	Number
Cinema	1	Sens	7	Loudness	13
Surr. on/off	2	News / TA	8	Bass	14
Surr. Mode	3	Prev.Exit	9	Treble	15
Hall	4	SetupMenu	--		
Tuner	5	Next	11		
Radio Text	6	Enter/OK	12		

Table 1

Tuner Test

Display info Version	Europe "EUR" /00	East Eur. 3-band "EEL" /14	East Eur. 2-band "EEU" /14	USA "USA" /17	Oversea "OSE" /01
Preset 1	87.5MHz	65.81MHz	65.81MHz	87.5MHz	87.5MHz
2	108MHz	108MHz	108MHz	108MHz	108MHz
3	531kHz	74MHz	74MHz	530kHz	531kHz
4	1602kHz	87.5MHz	87.5MHz	1700kHz	1602kHz
5	558kHz	531kHz	531kHz	560kHz	558kHz
6	1494kHz	1602kHz	1602kHz	1500kHz	1494kHz
7	153kHz	558kHz	558kHz	98MHz	----
8	279kHz	1494kHz	1494kHz	----	----
9	198kHz	153kHz	98MHz	----	----
10	98MHz	279kHz	70.01MHz	----	----
11	----	198kHz	----	----	98MHz

This table is valid for all types of tuners. Table 2
Custormer presets will not changed after this Tuner test.
If a station is tuned then the display flag "OK" will be ON otherwise it will be OFF.
If the tuned frequency is carrying RDS information, the display flag "RDS" will be ON.
Oversea version: the tuning grid can be switched between 9kHz and 10kHz by pressing the key "TUNER" for longer then 2 seconds. "Grid 9" or "Grid10" will be shown accordingly.
Grid 9kHz is in FM 50kHz , Grid 10kHz is in FM 100kHz
Europe version: the LW can be switched On and Off by pressing the key "TUNER" for longer than 2 seconds. LW OFF or LW ON will be shown accordingly.

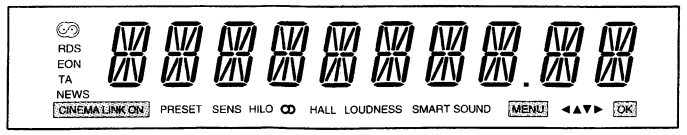

RDS
EON
TA
NEWS
CINEMA LINK ON
PRESET
SENS
HILO
HALL
LOUDNESS
SMART SOUND
MENU
◄▲▼►
OK

Figure 1

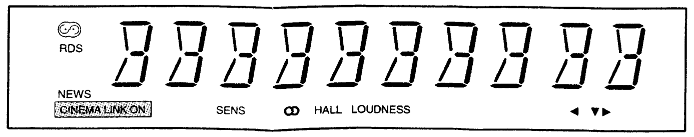
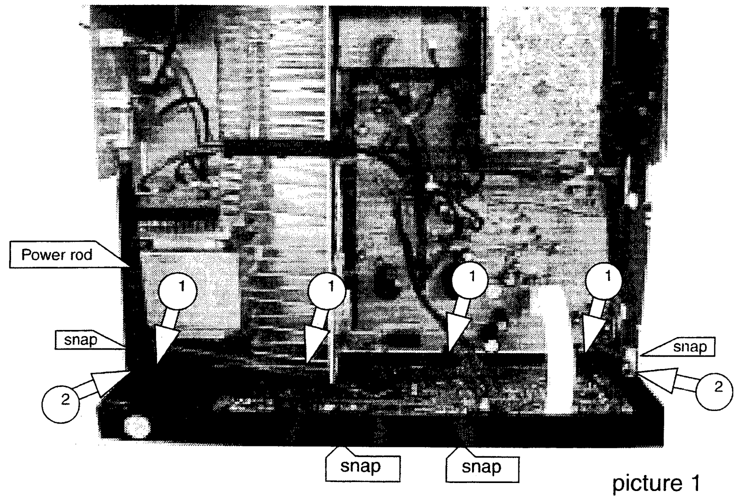

RDS
NEWS
CINEMA LINK ON
SENS
HALL
LOUDNESS
◄ ▼►

Figure 2

MDI 01-02-00

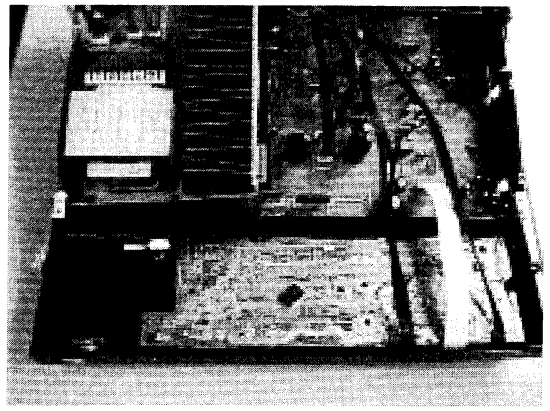
DISMANTLING HINTS

Dismantling of Front



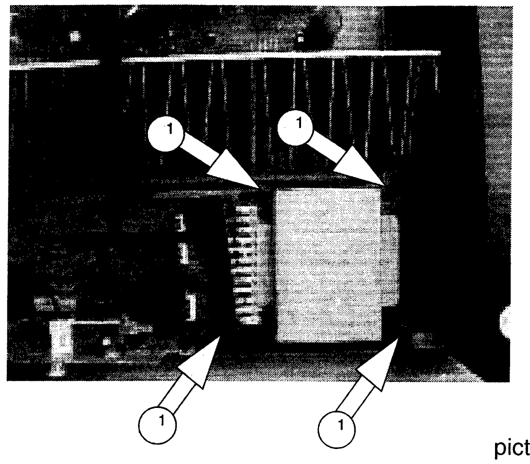
picture 1

1) Remove top cover
2) Remove power rod
3) Remove 6 x screw as shown in picture 1
4) Release two snaps (left & right side front)
5) Release two snaps on the bottom side front
6) Tipp down front as shown in picture 2



picture 2

Dismantling of mainstrafo

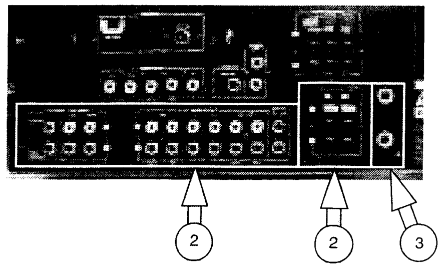


picture 8

1) Remove power rod
2) Remove 4x screw as shown in picture 8

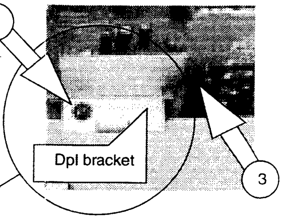
Dismantling of mono board

1) Remove front . See picture 1
2) Remove whole front (disconnect the wires on the mono board coming from front)

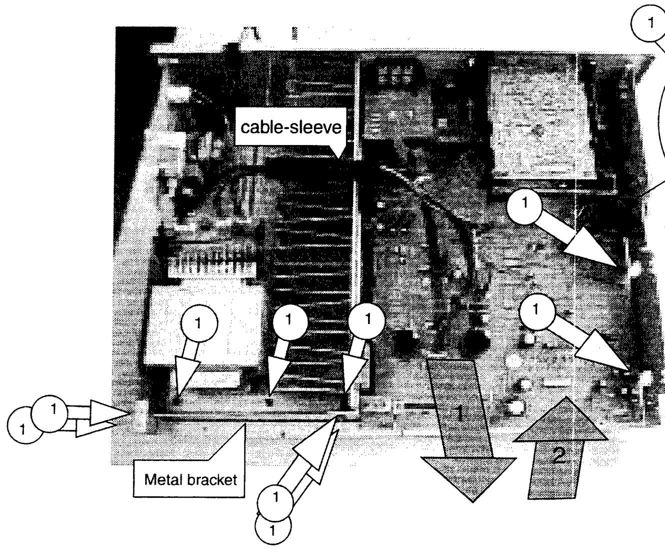


picture 3

3) Remove 10 x screws shown in mentionned aria . See picture 3

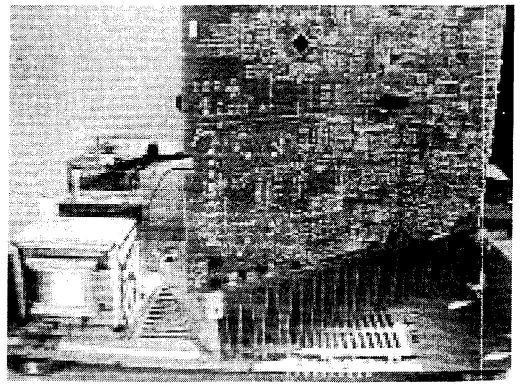


picture 4a



picture 4

4) Remove DPL bracket. See picture 4a
5) Remove wires out the cable-sleeve.
4) Remove 7 x screw and remove metal bracket
5) Remove 2 x screw on mono board . See pictue 4
6) Remove mono board as shown arrow 1 & 2 . See picture 4
7) Bring the mono board in the service position as shown in picture 5



picture 5

Legend

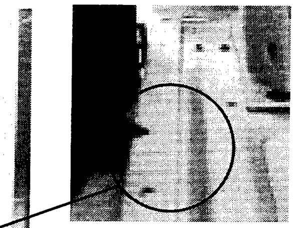
① = Torx M3x6mm (screw with big head)

② = Torx 3x10mm

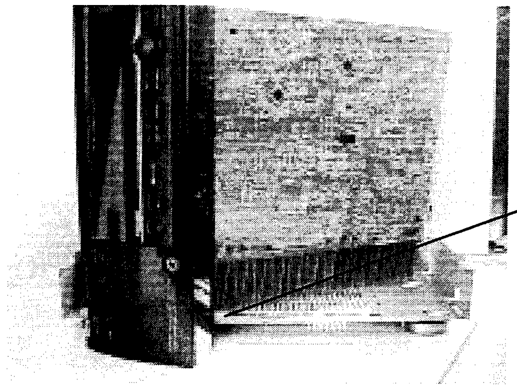
③ = Torx M3x6mm

Service position monoboard

1) Bring front in position as shown in picture 6
2) Snap nok of front in bottom to make front stable . See picture 7
3) Connect front wiring back to monoboard.
*The tuner module doesn't have to be connected. Use an other source (pe.CD)

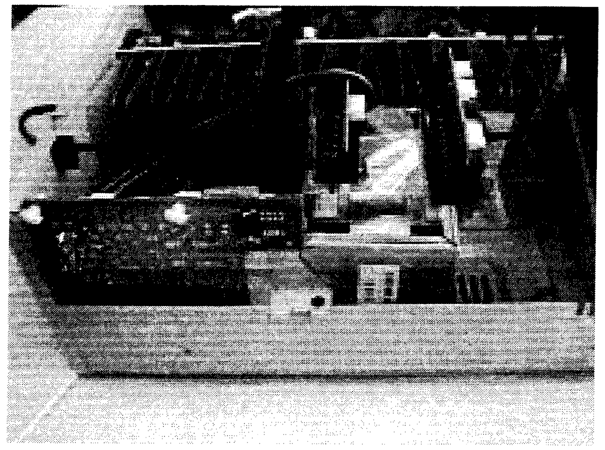


picture 7



picture 6

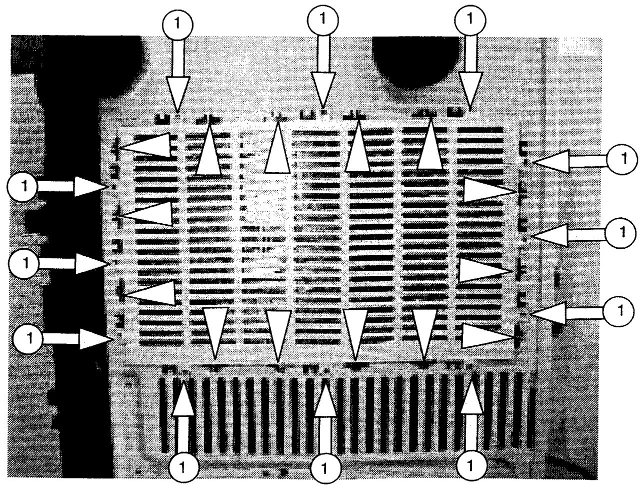
Service position main trafo



1) Put main trafo as shown in picture 9

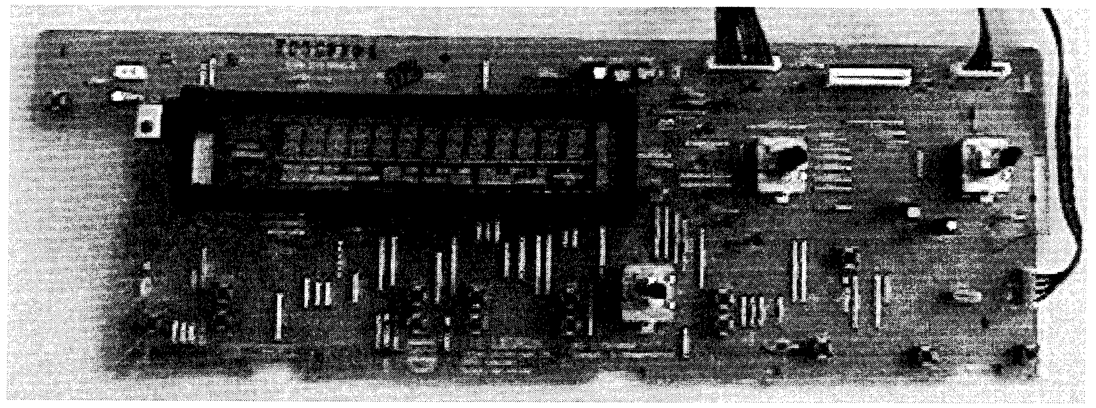
picture 9

Handling service cover



picture 10

1) To open the service cover cut 14 x lugs between cover and bottem . See picture 10 (▽)
2) To close the service cover put 12 x screw in mentionned holes. See picture 10
Service codenumber 12x Torx M3x6mm screw with big head = 4822 502 14659

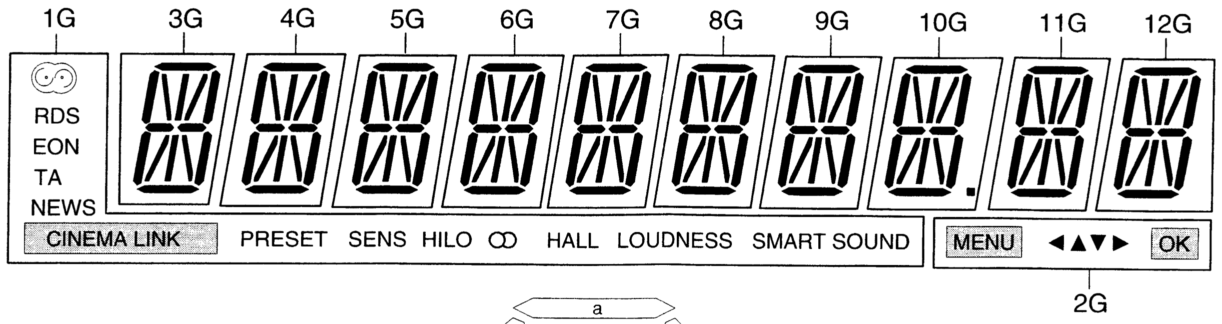


FRONT BOARD

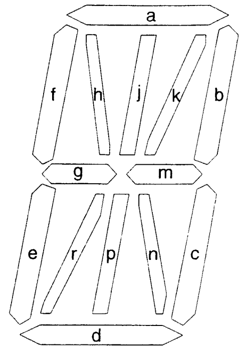
TABLE OF CONTENTS

FTD Display pin connections.................................. 6-2
Headphone & Led board layout 6-3
Circuit diagram 6-4
Component layout 6-5
Partslist 6-6

FTD DISPLAY PIN CONNECTIONS



1G
3G
4G
5G
6G
7G
8G
9G
10G
11G
12G
RDS
EON
TA
NEWS
CINEMA LINK
PRESET
SENS
HILO
HALL
LOUDNESS
SMART SOUND
MENU
◄▲▼►
OK
2G



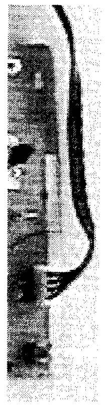
a
f
h
j
k
b
g
m
e
r
p
n
c
d

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G
P1	LOUDNESS	▼	a	a	a	a	a	a	a	a	a	a
P2	-	MENU	j p	j p	j p	j p	j p	j p	j p	j p	j p	j p
P3	-	►	h	h	h	h	h	h	h	h	h	h
P4	LO	OK	k	k	k	k	k	k	k	k	k	k
P5	CINEMA LINK	◄	b	b	b	b	b	b	b	b	b	b
P6	EON	▲	f	f	f	f	f	f	f	f	f	f
P7	HALL	-	m	m	m	m	m	m	m	m	m	m
P8	HI	-	g	g	g	g	g	g	g	g	g	g
P9	NEWS	-	c	c	c	c	c	c	c	c	c	c
P10	PRESET	-	e	e	e	e	e	e	e	e	e	e
P11	RDS	-	r	r	r	r	r	r	r	r	r	r
P12	SMART SOUND	-	n	n	n	n	n	n	n	n	n	n
P13	∞	-	d	d	d	d	d	d	d	d	d	d
P14	TA	-	-	-	-	-	-	-	-	■	-	-
P15	SENS	-	-	-	-	-	-	-	-	-	-	-

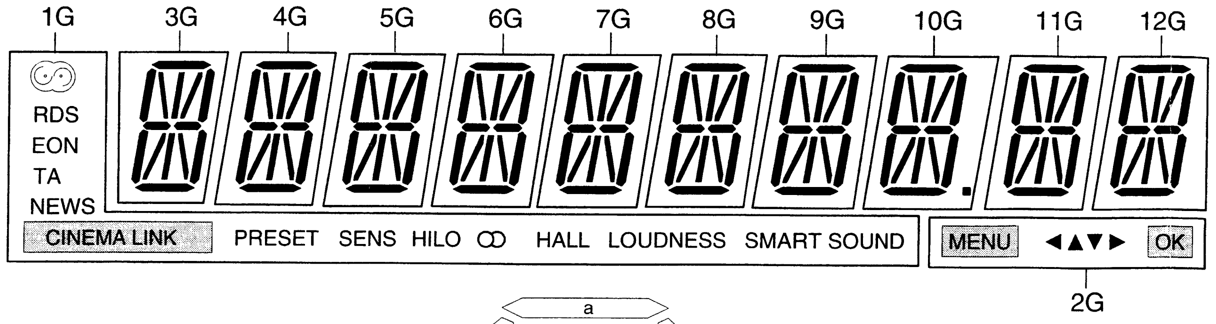
Pin Connection

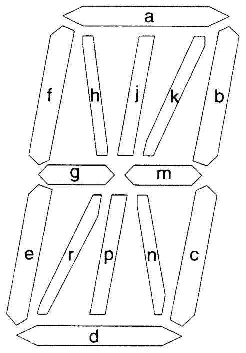
Pin numbers	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	F2	F2	NP	NP	NC	NC	NC	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	NC	NC	NC	NC	NC	NC	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	F1	F1

Note: NC -------------- No connection
NP -------------- No pin
FI , F2 ---------- Filament
1G ~ 12G ------ Grid



FTD DISPLAY PIN CONNECTIONS


1G
3G
4G
5G
6G
7G
8G
9G
10G
11G
12G
RDS
EON
TA
NEWS
CINEMA LINK
PRESET
SENS
HILO
HALL
LOUDNESS
SMART SOUND
MENU
◀▲▼▶
OK
2G


a
f
h
j
k
b
g
m
e
r
p
n
c
d

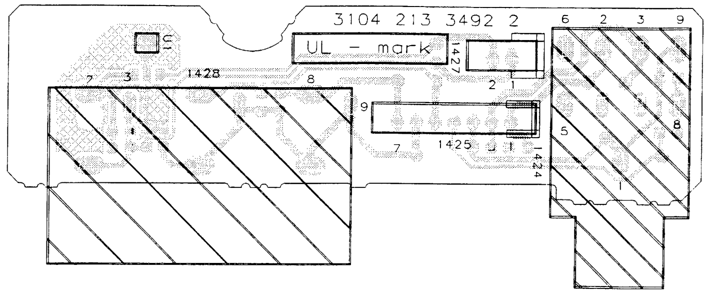
	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G
P1	LOUDNESS	▼	a	a	a	a	a	a	a	a	a	a
P2	-	MENU	j p	j p	j p	j p	j p	j p	j p	j p	j p	j p
P3	-	▶	h	h	h	h	h	h	h	h	h	h
P4	LO	OK	k	k	k	k	k	k	k	k	k	k
P5	CINEMA LINK	◀	b	b	b	b	b	b	b	b	b	b
P6	EON	▲	f	f	f	f	f	f	f	f	f	f
P7	HALL	-	m	m	m	m	m	m	m	m	m	m
P8	HI	-	g	g	g	g	g	g	g	g	g	g
P9	NEWS	-	c	c	c	c	c	c	c	c	c	c
P10	PRESET	-	e	e	e	e	e	e	e	e	e	e
P11	RDS	-	r	r	r	r	r	r	r	r	r	r
P12	SMART SOUND	-	n	n	n	n	n	n	n	n	n	n
P13	ꝏ	-	d	d	d	d	d	d	d	d	d	d
P14	TA	-	-	-	-	-	-	-	-	■	-	-
P15	SENS	-	-	-	-	-	-	-	-	-	-	-

Pin Connection

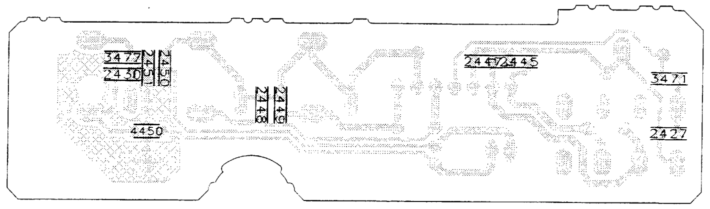
Pin numbers	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	F2	F2	NP	NP	NC	NC	NC	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	NC	NC	NC	NC	NC	NC	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	F1	F1

Note: NC -------------- No connection
NP -------------- No pin
FI , F2 ---------- Filament
1G ~ 12G ------ Grid

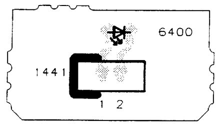
HEADPHONE BOARD - COMPONENT VIEW


3104 213 3492 2
UL - mark
U1
1428
1427
1425
1424
6
2
3
9
7
3
8
2
1
9
7
1
5
8
1

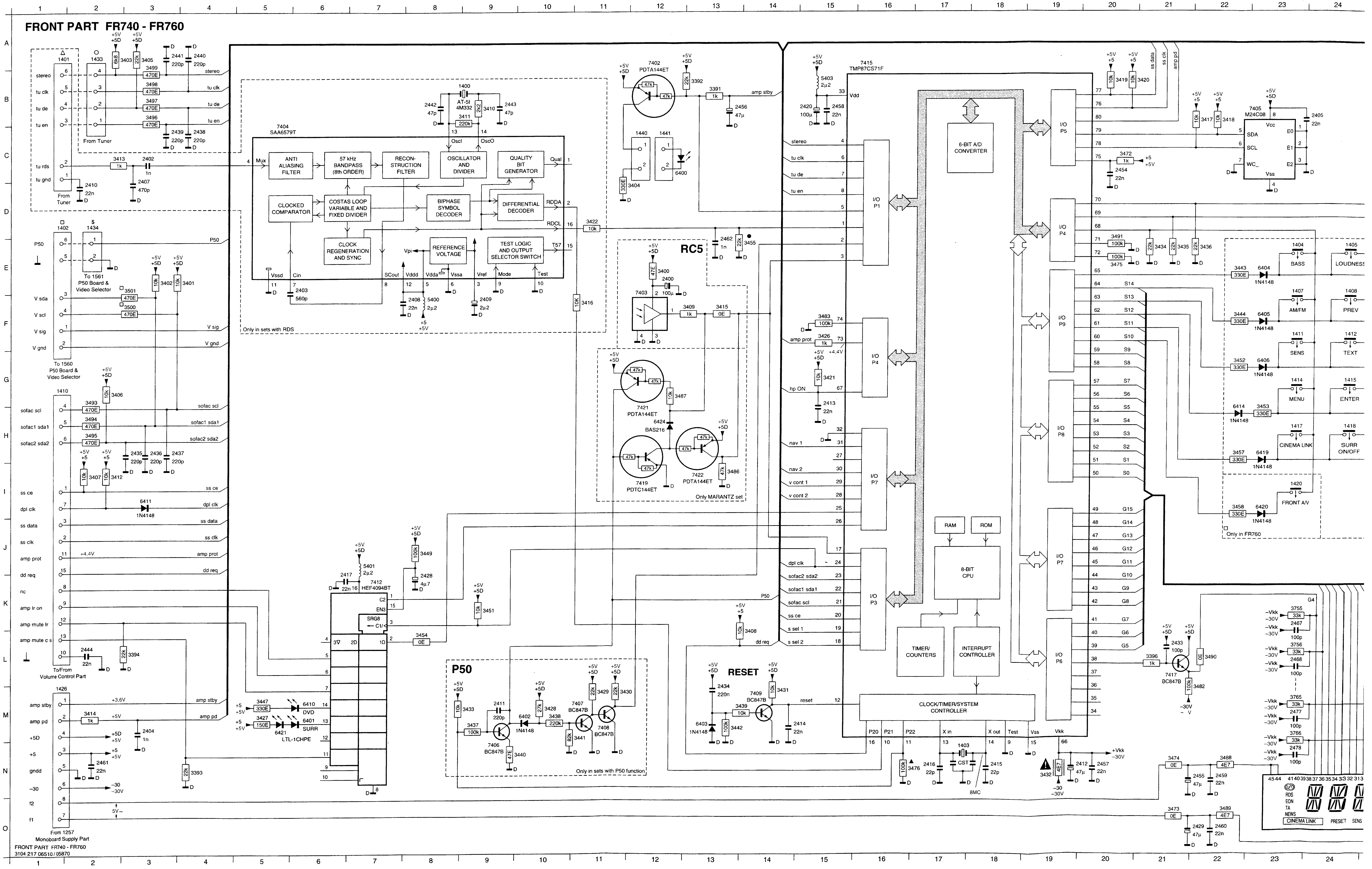
HEADPHONE BOARD - COPPER SIDE VIEW

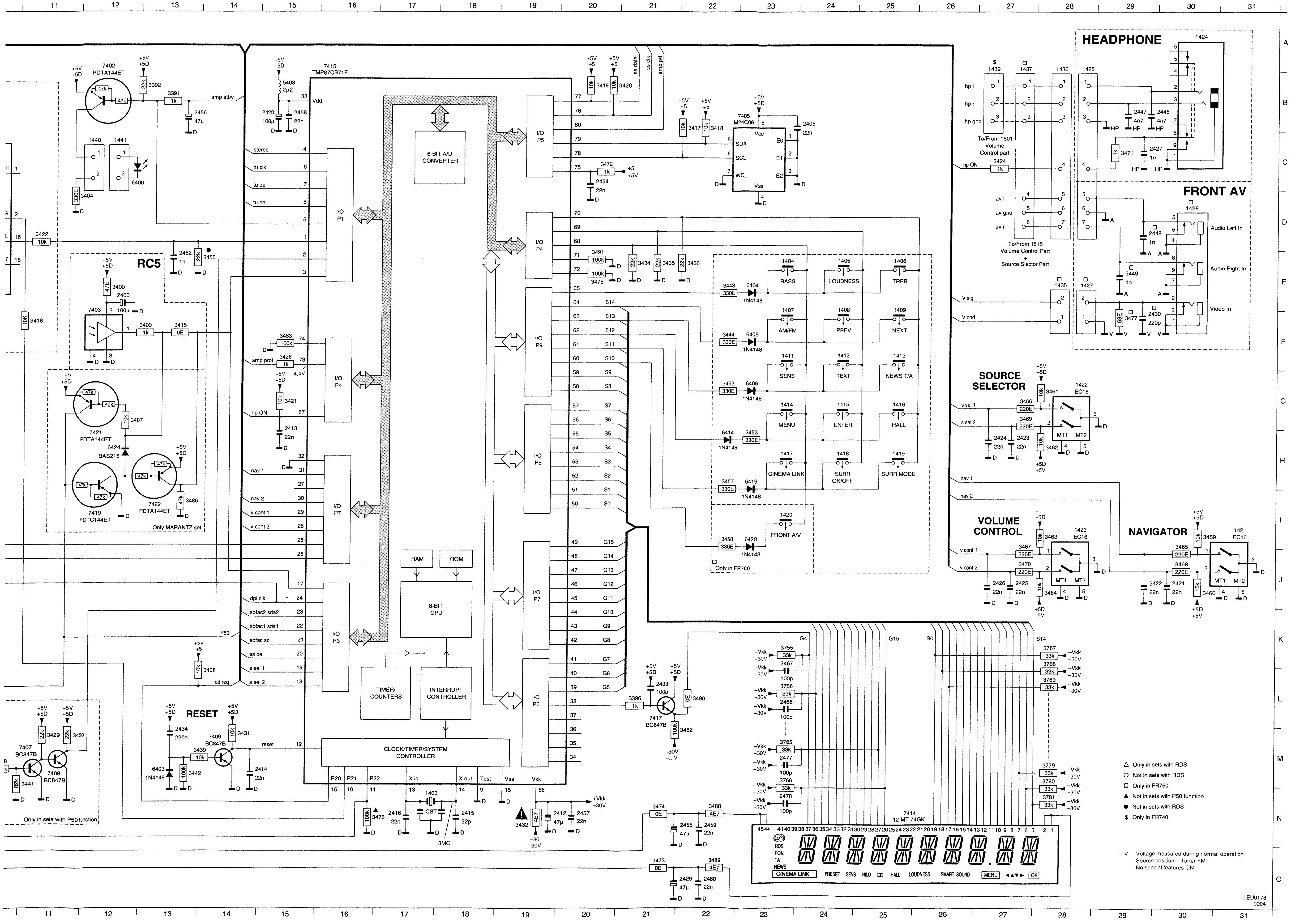

3477
2430
2451
2450
2448
2449
4450
2447
2445
3471
2427

LED BOARD - COMPONENT VIEW


6400
1441
1 2

FRONT PART FR740 - FR760


FRONT PART FR740 - FR760
From Tuner
To 1561 P50 Board & Video Selector
To 1560 P50 Board & Video Selector
To/From Volume Control Part
From 1257 Monoboard Supply Part
FRONT PART FR740 - FR760
3104 217 06510 / 05870
7404 SAA6579T
ANTI ALIASING FILTER
57 kHz BANDPASS (8th ORDER)
RECON-STRUCTION FILTER
OSCILLATOR AND DIVIDER
QUALITY BIT GENERATOR
CLOCKED COMPARATOR
COSTAS LOOP VARIABLE AND FIXED DIVIDER
BIPHASE SYMBOL DECODER
DIFFERENTIAL DECODER
CLOCK REGENERATION AND SYNC
REFERENCE VOLTAGE
TEST LOGIC AND OUTPUT SELECTOR SWITCH
Only in sets with RDS
1400 AT-51 4M332
7402 PDTA144ET
RC5
7403
7421 PDTA144ET
7419 PDTC144ET
7422 PDTA144ET
6424 BAS216
Only MARANTZ set
7412 HEF4094BT
SRG8
P50
7406 BC847B
7407 BC847B
7408 BC847B
Only in sets with P50 function
6410 DVD
6401 SURR
6421 LTL-1CHPE
RESET
7409 BC847B
6403 1N4148
7415 TMP87CS71F
6-BIT A/D CONVERTER
8-BIT CPU
RAM
ROM
TIMER/ COUNTERS
INTERRUPT CONTROLLER
CLOCK/TIMER/SYSTEM CONTROLLER
I/O P1
I/O P4
I/O P7
I/O P3
I/O P5
I/O P9
I/O P8
I/O P6
1403 CST 8MC
7405 M24C08
7417 BC847B
BASS
LOUDNESS
AM/FM
PREV
SENS
TEXT
MENU
ENTER
CINEMA LINK
SURR ON/OFF
FRONT A/V
Only in FR760
stereo
tu clk
tu de
tu en
tu rds
tu gnd
P50
V sda
V scl
V sig
V gnd
sofac scl
sofac1 sda1
sofac2 sda2
ss ce
dpl clk
ss data
ss clk
amp prot
dd req
nc
amp Ir on
amp mute Ir
amp mute c s
amp stby
amp pd
+5D
+5
gndd
-30
f2
f1
hp ON
nav 1
nav 2
v cont 1
v cont 2
s sel 1
s sel 2
reset
RDS
EON
TA
NEWS
CINEMA LINK
PRESET
SENS


HEADPHONE
FRONT AV
RC5
RESET
SOURCE SELECTOR
VOLUME CONTROL
NAVIGATOR
7415
TMP87CS71F
6-BIT A/D CONVERTER
8-BIT CPU
RAM
ROM
TIMER/ COUNTERS
INTERRUPT CONTROLLER
CLOCK/TIMER/SYSTEM CONTROLLER
I/O P1
I/O P3
I/O P4
I/O P5
I/O P6
I/O P7
I/O P8
I/O P9
7405
M24C08
7414
12-MT-74GK
7402 PDTA144ET
7403
7407 BC847B
7408 BC847B
7409 BC847B
7417 BC847B
7419 PDTC144ET
7421 PDTA144ET
7422 PDTA144ET
6424 BAS216
1404 BASS
1405 LOUDNESS
1406 TREB
1407 AM/FM
1408 PREV
1409 NEXT
1411 SENS
1412 TEXT
1413 NEWS T/A
1414 MENU
1415 ENTER
1416 HALL
1417 CINEMA LINK
1418 SURR ON/OFF
1419 SURR MODE
1420 FRONT A/V
Only in FR760
Only MARANTZ set
Only in sets with P50 function
To/From 1601 Volume Control part
To/From 1515 Volume Control Part + Source Slector Part
Audio Left In
Audio Right In
Video In
hp l
hp r
hp gnd
hp ON
av l
av gnd
av r
V sig
V gnd
s sel 1
s sel 2
nav 1
nav 2
v cont 1
v cont 2
amp stby
stereo
tu clk
tu de
tu en
amp prot
dpl clk
sofac2 sda2
sofac1 sda1
sofac scl
ss ce
dd req
reset
ss data
ss clk
amp pd
P50
EC16
8MC
CST
RDS
EON
TA
NEWS
CINEMA LINK
PRESET
SENS
HILO
HALL
LOUDNESS
SMART SOUND
MENU
OK
LEU0178
0004

△ Only in sets with RDS

○ Not in sets with RDS

☐ Only in FR760

▲ Not in sets with P50 function

● Not in sets with RDS

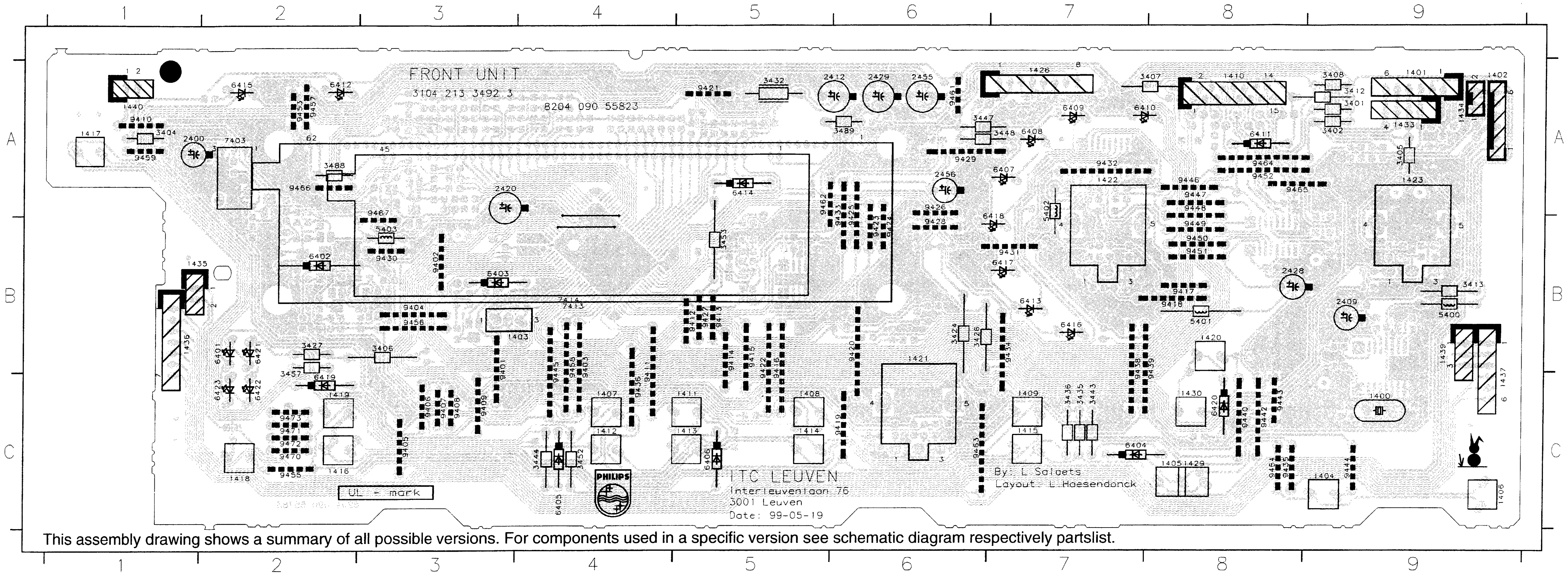
$ Only in FR740

V - Voltage measured during normal operation
- Source position : Tuner FM
- No special features ON

1400	B8	3424	C27
1401	A1	3426	F15
1402	D1	3427	M5
1403	N17	3428	M10
1404	E23	3429	M11
1405	E24	3430	M11
1406	E25	3431	M14
1407	F23	3432	N19
1408	F24	3433	M9
1409	F25	3434	E21
1410	G1	3435	E21
1411	F23	3436	E22
1412	F24	3437	M9
1413	F25	3438	M10
1414	G23	3439	M13
1415	G24	3440	N10
1416	G25	3441	N11
1417	H23	3442	M13
1418	H24	3443	E22
1419	H25	3444	F22
1420	I23	3447	M5
1421	I31	3449	J8
1422	G28	3451	K9
1423	I28	3452	G22
1424	A30	3453	H23
1425	A28	3454	L8
1426	M1	3455	E14
1427	E28	3457	H22
1428	D30	3458	I22
1433	A2	3459	I30
1434	D2	3460	J30
1435	E28	3461	G28
1436	A28	3462	H28
1437	A27	3463	I28
1439	A27	3464	J28
1440	C12	3465	I30
1441	C12	3466	G27
2400	E12	3467	I27
2402	C3	3468	J30
2403	E6	3469	G27
2404	M3	3470	J27
2405	B24	3471	C29
2407	D3	3472	C20
2408	F8	3473	O21
2409	F9	3474	N21
2410	D2	3475	E20
2411	M9	3476	N16
2412	N19	3477	F29
2413	H15	3482	M22
2414	M14	3483	F15
2415	N18	3486	I13
2416	N17	3487	G12
2417	K6	3488	N22
2420	B15	3489	O22
2421	J30	3490	L22
2422	J29	3491	E20
2423	H27	3493	G2
2424	H27	3494	H2
2425	J27	3495	H2
2426	J27	3496	B3
2427	C29	3497	B3
2428	K8	3498	B3
2429	O22	3499	A3
2430	F29	3500	F3
2433	L21	3501	E3
2434	M13	3755	K23
2435	H3	3756	L23
2436	H3	3765	M23
2437	H3	3766	M23
2438	C4	3767	K28
2439	C3	3768	K28
2440	A4	3769	L28
2441	A3	3779	M28
2442	B8	3780	M28
2443	B9	3781	N28
2444	L2	5400	F8
2445	B29	5401	J7
2447	B29	5403	B15
2448	D29	6400	C12
2449	E29	6401	M6
2454	C20	6402	M10
2455	N22	6403	M13
2456	B13	6404	E23
2457	N20	6405	F23
2458	B15	6406	G23
2459	N22	6410	M6
2460	O22	6411	I3
2461	N2	6414	H22
2462	E13	6419	H23
2467	K23	6420	I23
2468	L23	6421	M5
2477	M23	6424	H12
2478	N23	7402	A12
3391	B13	7403	F12
3392	B13	7404	C5
3393	N4	7405	B22
3394	L3	7406	N9
3396	L21	7407	M11
3400	E12	7408	M11
3401	E4	7409	M14
3402	E3	7412	K7
3403	A2	7414	N25
3404	D11	7415	A16
3405	A3	7417	L21
3406	G2	7419	I12
3407	I2	7421	H12
3408	L14	7422	I13
3409	F12		
3410	B9		
3411	B8		
3412	I2		
3413	C2		
3414	M2		
3415	F13		
3416	F11		
3417	B22		
3418	B22		
3419	B20		
3420	B20		
3421	G15		
3422	D11		

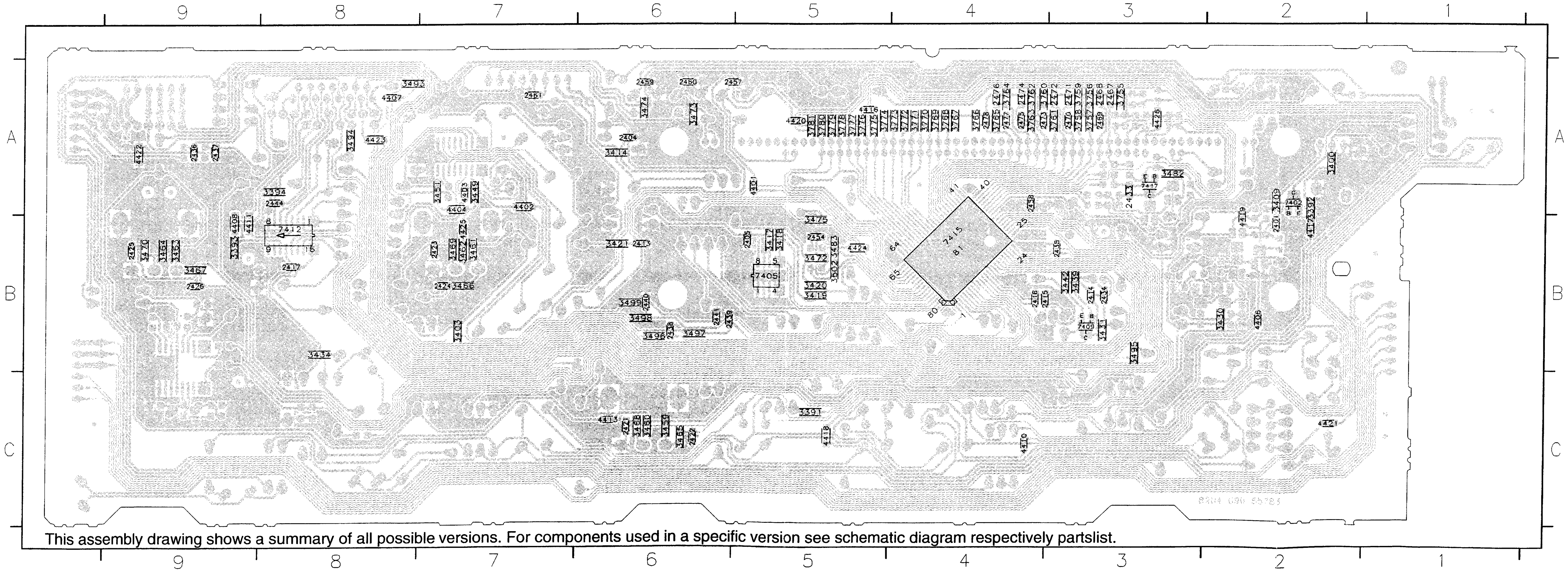
FRONT BOARD - COMPONENT & COPPER SIDE VIEW

1400	C9
1401	A9
1402	A9
1403	B4
1404	C9
1405	C8
1406	C9
1407	C4
1408	C5
1409	C7
1410	A8
1411	C5
1412	C4
1413	C5
1414	C5
1415	C7
1416	C2
1417	A1
1418	C2
1419	C2
1420	B8
1421	B6
1422	A7
1423	A9
1426	A7
1429	C8
1430	C8
1433	A9
1434	A9
1435	B1
1436	B1
1437	C9
1439	B9
1440	A1
2400	A1
2409	B9
2412	A6
2420	A3
2428	B8
2429	A6
2455	A6
2456	A6
3401	A9
3402	A9
3404	A1
3405	A9
3406	B3
3407	A8
3408	A9
3412	A9
3413	B9
3424	B6
3426	B6
3427	B2
3432	A5
3435	C7
3436	C7
3443	C7
3444	C4
3447	A6
3448	A7
3452	C4
3453	B5
3457	C2
3488	A2
3489	A6
5400	B9
5401	B8
5402	A7
5403	B3
6401	B2
6402	B2
6403	B3
6404	C7
6405	C4
6406	C5
6407	A7
6408	A7
6409	A7
6410	A7
6411	A8
6412	A2
6413	B7
6414	A5
6415	A2
6416	B7
6417	B7
6418	B7
6419	C2
6420	C8
6421	B2
6422	C2
6423	C2
7403	A2
7413	B4
7414	B4
9401	B3
9402	B3
9403	B4
9404	B3
9405	C3
9406	C3
9407	C3
9408	C3
9409	C3
9410	A1
9411	B4
9412	B5
9413	B5
9414	B5
9415	B5
9416	B5
9417	B8
9418	B8
9419	C6
9420	B6
9421	A5
9422	B5
9423	B6
9424	B6
9425	A6
9426	A6
9427	B5
9428	B6
9429	A6
9430	B3
9431	B7
9432	A7
9433	A6
9434	B7
9435	C8
9436	C4
9438	B7
9439	B8
9440	C8
9442	C8
9443	C8
9444	C9
9445	B4
9446	A8
9447	A8
9448	A8
9449	B8
9450	B8
9451	B8
9452	A8
9453	A2
9454	C8
9455	C2
9456	B3
9457	A2
9458	B4
9459	A1
9461	A6
9462	A5
9463	C6
9464	A8
9465	A8
9466	A2
9467	A3
9470	C2
9471	C2
9472	C2
9473	C2



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

7412	A8
7415	B4
7416	A3
7417	A3
7418	B3
7419	B2
7421	B2
6424	B2
7402	A2
7404	B9
7405	B5
7406	B2
7407	B3
7408	B2
7409	B3
7411	A7
4418	C5
4419	B2
4420	A5
4421	C2
4422	A9
4423	A8
4424	B5
4425	B7
4426	A3
4404	A7
4406	B2
4407	A8
4408	B9
4410	C4
4411	B9
4413	C6
4416	A5
4417	B2
3776	A5
3777	A5
3778	A5
3779	A5
3780	A5
3781	A5
4401	A5
4402	A7
4403	A7
3767	A4
3768	A4
3769	A4
3770	A4
3771	A4
3772	A4
3773	A4
3774	A5
3775	A5
3758	A3
3759	A3
3760	A4
3761	A3
3762	A4
3763	A4
3764	A4
3765	A4
3766	A4
3501	A9
3502	B5
3751	A3
3752	A3
3753	A3
3754	A3
3755	A3
3756	A3
3757	A3
3492	B5
3493	A8
3494	A8
3495	B3
3496	B6
3497	B6
3498	B6
3499	B6
3500	A9
3481	A3
3482	A3
3483	B5
3484	A3
3485	A3
3486	B2
3487	B2
3490	A3
3491	B5
3470	B9
3472	B5
3473	A6
3474	A6
3475	A5
3476	B2
3478	A3
3479	B3
3480	A3
3461	B7
3462	B7
3463	B9
3464	B9
3465	C6
3466	B7
3467	B9
3468	C6
3469	B7
3445	A2
3446	A2
3449	A7
3451	A7
3454	A7
3455	C8
3458	C8
3459	C6
3460	C6
3431	B3
3433	B2
3434	B8
3437	B2
3438	B3
3439	B3
3440	B2
3441	B3
3442	B3
3417	B5
3418	B5
3419	B5
3420	B5
3421	B6
3422	B9
3428	B3
3429	B3
3430	B2
3396	A3
3400	A2
3403	B7
3409	A2
3410	C9
3411	C9
3414	A6
3415	A2
3416	B9
2475	A4
2476	A4
2477	A4
2478	A4
3391	C5
3392	A2
3393	B9
3394	A8
3395	A3
2466	A3
2467	A3
2468	A3
2469	A3
2470	A3
2471	A3
2472	A3
2473	A4
2474	A4
2457	A6
2458	A4
2459	A6
2460	A6
2461	A7
2462	C8
2463	A3
2464	A3
2465	A3
2437	A9
2438	B6
2439	B6
2440	B6
2441	B6
2442	C9
2443	C9
2444	A8
2454	B5
2424	B7
2425	B9
2426	B9
2431	B3
2432	A3
2433	A3
2434	B3
2435	B3
2436	A9
2413	B6
2414	B3
2415	B4
2416	B4
2417	B8
2419	A7
2421	C6
2422	C6
2423	B7
2401	B2
2402	B9
2403	B9
2404	A6
2405	B5
2407	B9
2408	B9
2410	A9
2411	B2



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

ELECTRICAL PARTSLIST - FRONT BOARD

MISCELLANEOUS

1400	482224211033	CRYSTAL 4,332MH
1403	482224272066	CRYSTAL 8,00MH
1404	482227613114	SWITCH, PUSH BUTTON
1405	482227613114	SWITCH, PUSH BUTTON
1406	482227613114	SWITCH, PUSH BUTTON
1407	482227613114	SWITCH, PUSH BUTTON
1408	482227613114	SWITCH, PUSH BUTTON
1409	482227613114	SWITCH, PUSH BUTTON
1410	482226510981	15FE-BT-VK-N
1411	482227613114	SWITCH, PUSH BUTTON
1412	482227613114	SWITCH, PUSH BUTTON
1413	482227613114	SWITCH, PUSH BUTTON
1414	482227613114	SWITCH, PUSH BUTTON
1415	482227613114	SWITCH, PUSH BUTTON
1416	482227613114	SWITCH, PUSH BUTTON
1417	482227613114	SWITCH, PUSH BUTTON
1418	482227613114	SWITCH, PUSH BUTTON
1419	482227613114	SWITCH, PUSH BUTTON
1421	482227310372	SWITCH ROTARY
1422	482227310372	SWITCH ROTARY
1423	482227310365	ROTARY ENCODER 24P
1424	482226511584	1P YKB21-5209
8002	482232012706	FLEXIBLE FOIL 15P - 220MM

CAPACITORS

2400	482212441584	100UF 20% 10V
2402	532212231647	1NF10%X7R 63V
2403	532211680853	560PF 5%NP0 63V
2404	532212231647	1NF10%X7R 63V
2405	532212232654	22NF10%X7R 63V
2407	532212234099	470PF10%X7R 63V
2408	532212232654	22NF10%X7R 63V
2409	482212422652	2,2UF20% 50V
2410	532212232654	22NF10%X7R 63V
2411	482212233575	220PF 5% NP0 63V
2412	482212441751	47UF 20% 50V
2413	532212232654	22NF10%X7R 63V
2414	532212232654	22NF10%X7R 63V
2415	532212232658	22PF 5% 50V
2416	532212232658	22PF 5% 50V
2417	532212232654	22NF10%X7R 63V
2420	482212423432	100UF20% 10V
2421	532212232654	22NF10%X7R 63V
2422	532212232654	22NF10%X7R 63V
2423	532212232654	22NF10%X7R 63V
2424	532212232654	22NF10%X7R 63V
2425	532212232654	22NF10%X7R 63V
2426	532212232654	22NF10%X7R 63V
2427	532212231647	1NF10%X7R 63V
2428	482212440769	4,7UF20% 100V
2429	482212441751	47UF 20% 50V
2433	532212232531	100PF 5%NP0 50V
2434	482212614076	220N 25V. P8020
2435	482212233575	220PF 5% NP0 63V
2436	482212233575	220PF 5% NP0 63V
2437	482212233575	220PF 5% NP0 63V
2438	482212233575	220PF 5% NP0 63V
2439	482212233575	220PF 5% NP0 63V
2440	482212233575	220PF 5% NP0 63V
2441	482212233575	220PF 5% NP0 63V
2442	482212613692	47PF 1% NP0 63V
2443	482212613692	47PF 1% NP0 63V
2444	532212232654	22NF10%X7R 63V
2445	532212610223	4,7NF10%X7R 63V
2447	532212610223	4,7NF10%X7R 63V
2454	532212232654	22NF10%X7R 63V
2455	482212441751	47UF 20% 50V
2456	482212441751	47UF 20% 50V
2457	532212232654	22NF10%X7R 63V
2458	532212232654	22NF10%X7R 63V
2459	532212232654	22NF10%X7R 63V
2460	532212232654	22NF10%X7R 63V
2461	532212232654	22NF10%X7R 63V
2462	532212231647	1NF10%X7R 63V
2467	532212232531	100PF 5%NP0 50V
2468	532212232531	100PF 5%NP0 50V
2469	532212232531	100PF 5%NP0 50V
2470	532212232531	100PF 5%NP0 50V
2471	532212232531	100PF 5%NP0 50V
2472	532212232531	100PF 5%NP0 50V
2473	532212232531	100PF 5%NP0 50V
2474	532212232531	100PF 5%NP0 50V
2475	532212232531	100PF 5%NP0 50V
2476	532212232531	100PF 5%NP0 50V
2477	532212232531	100PF 5%NP0 50V
2478	532212232531	100PF 5%NP0 50V

RESISTORS

3391	482205110102	1K00 2% 0,25W
3392	482205120223	22K00 5% 0,1W
3393	482205120223	22K00 5% 0,1W
3394	482205120223	22K00 5% 0,1W
3396	482205110102	1K00 2% 0,25W
3400	482205120479	47R00 5% 0,1W
3401	482205021003	10K00 1% 0,6W
3402	482205021003	10K00 1% 0,6W
3403	482211711507	6K8 1% 0,1W
3404	482211652219	330E 5% 0,5W
3405	482211652257	22K 5% 0,5W
3406	482205021003	10K00 1% 0,6W
3407	482205021003	10K00 1% 0,6W
3408	482205021003	10K00 1% 0,6W
3409	482205110102	1K00 2% 0,25W
3410	482211711449	2K2 1% 0,1W
3411	482211713579	220K 1% 0.1W RC12H
3412	482205021003	10K00 1% 0,6W
3413	482205011002	1K00 1% 0,4W
3414	482205110102	1K00 2% 0,25W
3415	482205120008	0R00 JUMP.
3416	482211710833	10K 1% 0,1W
3417	482211710833	10K 1% 0,1W
3418	482211710833	10K 1% 0,1W
3419	482211710833	10K 1% 0,1W
3420	482211710833	10K 1% 0,1W
3421	482211710833	10K 1% 0,1W
3422	482211710833	10K 1% 0,1W
3424	482205011002	1K00 1% 0,4W
3426	482205011002	1K00 1% 0,4W
3427	482211683868	150R 5% 0,5W
3428	482205120273	27K00 5% 0,1W
3429	482205120223	22K00 5% 0,1W
3430	482205120223	22K00 5% 0,1W
3431	482211710833	10K 1% 0,1W
3432 ▲	482205210478	4R70 5% 0,33W
3433	482211710833	10K 1% 0,1W
3434	482205120223	22K00 5% 0,1W
3435	482211652257	22K 5% 0,5W
3436	482211652257	22K 5% 0,5W
3437	482211710837	100K 1% 0.1W
3438	482211713579	220K 1% 0.1W RC12H
3439	482211710833	10K 1% 0,1W
3440	482205120479	47R00 5% 0,1W
3441	482211711149	82K 1% 0,1W
3442	482211710837	100K 1% 0.1W
3443	482211652219	330E 5% 0,5W
3444	482211652219	330E 5% 0,5W
3447	482211652219	330E 5% 0,5W
3449	482211710837	100K 1% 0.1W
3451	482211710833	10K 1% 0,1W
3452	482211652219	330E 5% 0,5W
3453	482211652219	330E 5% 0,5W
3454	482205120008	0R00 JUMP. (0805)
3457	482211652219	330E 5% 0,5W
3459	482211710833	10K 1% 0,1W
3460	482211710833	10K 1% 0,1W
3461	482211710833	10K 1% 0,1W
3462	482211710833	10K 1% 0,1W
3463	482211710833	10K 1% 0,1W
3464	482211710833	10K 1% 0,1W
3465	482211711503	220R 1% 0.1W
3466	482211711503	220R 1% 0.1W
3467	482211711503	220R 1% 0.1W
3468	482211711503	220R 1% 0.1W
3469	482211711503	220R 1% 0.1W
3470	482211711503	220R 1% 0.1W
3471	482205110102	1K00 2% 0,25W
3472	482205110102	1K00 2% 0,25W
3473	482205120008	0R00 JUMP. (0805)
3474	482205120008	0R00 JUMP. (0805)
3475	482211710837	100K 1% 0.1W
3482	482211710837	100K 1% 0.1W
3483	482211710837	100K 1% 0.1W
3488	482205024708	4R70 1% 0,6W
3489	482205024708	4R70 1% 0,6W
3490	482205120008	0R00 JUMP. (0805)
3491	482211710837	100K 1% 0.1W
3493	482205120471	470R00 5% 0,1W
3494	482205120471	470R00 5% 0,1W
3495	482205120471	470R00 5% 0,1W
3496	482205120471	470R00 5% 0,1W
3497	482205120471	470R00 5% 0,1W
3498	482205120471	470R00 5% 0,1W
3499	482205120471	470R00 5% 0,1W
3755	482205120333	33K00 5% 0,1W
3756	482205120333	33K00 5% 0,1W
3757	482205120333	33K00 5% 0,1W
3758	482205120333	33K00 5% 0,1W
3759	482205120333	33K00 5% 0,1W
3760	482205120333	33K00 5% 0,1W
3761	482205120333	33K00 5% 0,1W
3762	482205120333	33K00 5% 0,1W
3763	482205120333	33K00 5% 0,1W
3764	482205120333	33K00 5% 0,1W
3765	482205120333	33K00 5% 0,1W
3766	482205120333	33K00 5% 0,1W
3767	482205120333	33K00 5% 0,1W
3768	482205120333	33K00 5% 0,1W
3769	482205120333	33K00 5% 0,1W
3770	482205120333	33K00 5% 0,1W
3771	482205120333	33K00 5% 0,1W
3772	482205120333	33K00 5% 0,1W
3773	482205120333	33K00 5% 0,1W
3774	482205120333	33K00 5% 0,1W
3775	482205120333	33K00 5% 0,1W
3776	482205120333	33K00 5% 0,1W
3777	482205120333	33K00 5% 0,1W
3778	482205120333	33K00 5% 0,1W
3779	482205120333	33K00 5% 0,1W
3780	482205120333	33K00 5% 0,1W
3781	482205120333	33K00 5% 0,1W
4401	482205120008	0R00 JUMP. (0805)
4402	482205120008	0R00 JUMP. (0805)
4403	482205120008	0R00 JUMP. (0805)
4404	482205120008	0R00 JUMP. (0805)
4406	482205120008	0R00 JUMP. (0805)
4407	482205120008	0R00 JUMP. (0805)
4408	482205120008	0R00 JUMP. (0805)
4410	482205120008	0R00 JUMP. (0805)
4411	482205120008	0R00 JUMP. (0805)
4413	482205120008	0R00 JUMP. (0805)
4416	482205120008	0R00 JUMP. (0805)
4417	482205120008	0R00 JUMP. (0805)
4418	482205120008	0R00 JUMP. (0805)
4420	482205120008	0R00 JUMP. (0805)
4421	482205120008	0R00 JUMP. (0805)
4422	482205120008	0R00 JUMP. (0805)
4423	482205120008	0R00 JUMP. (0805)
4424	482205120008	0R00 JUMP. (0805)
4425	482205120008	0R00 JUMP. (0805)
4426	482205120008	0R00 JUMP. (0805)
4450	482205120008	0R00 JUMP. (0805)

FILTERS

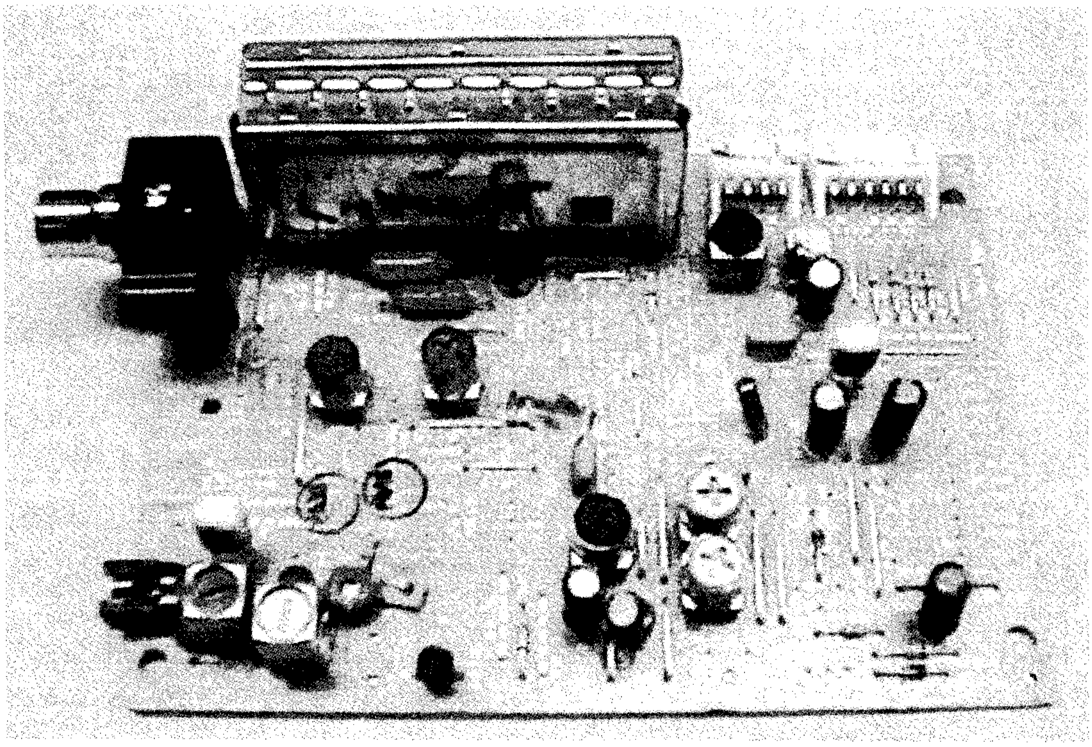
5400	482215711477	LAL02TB2R2J
5401	482215711477	LAL02TB2R2J
5403	482215711477	LAL02TB2R2J

DIODES

6400	932210014682	LED STBY
6401	482213082978	SURROUND LED
6402	482213030621	1N4148
6403	482213030621	1N4148
6404	482213030621	1N4148
6405	482213030621	1N4148
6406	482213030621	1N4148
6410	482213082978	SURROUND LED
6411	482213030621	1N4148
6414	482213030621	1N4148
6419	482213030621	1N4148
6421	482213082978	6CH/DVD LED

TRANSISTORS & ICs

7402	482213011607	PDTA144ET
7403	482213010165	GP1U28XP
7404	482220931981	SAA6579T
7405	482220917445	M24C08-MN6
7406	482213060511	BC847B
7407	482213060511	BC847B
7408	482213060511	BC847B
7409	482213060511	BC847B
7412	532220911306	HEF4094BT
7414	482213500275	DISPLAY
7415	482220917446	TMP87CS71F/FR755.1
7417	482213060511	BC847B



TUNER 95 BOARD

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Circuit diagram 7A-5
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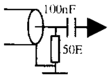
TUNER 95 bis Adjustment Table (FM, MW, LW with Frame antenna)

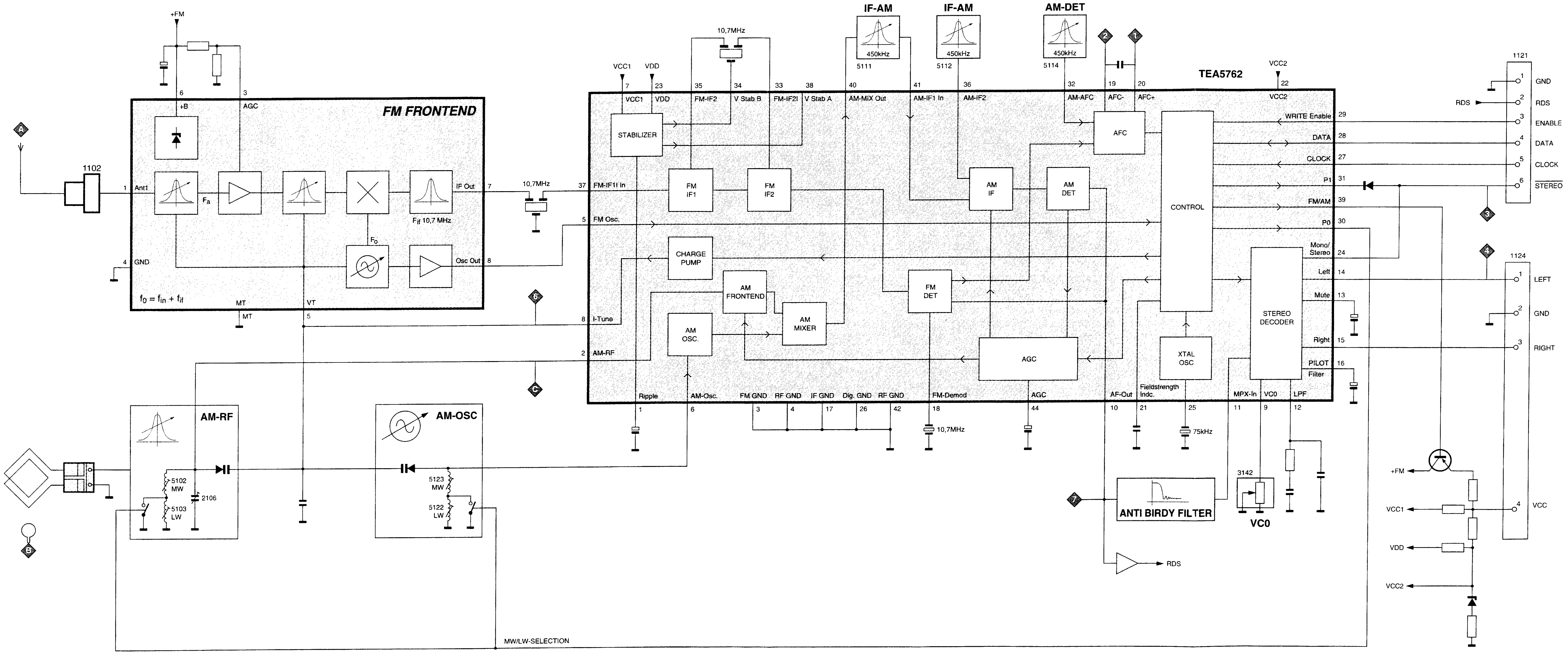
Waverange	**Input frequency**	**Input**	**Set tuned to**	**Adjust**	**Output**	**Scope / Voltmeter**
VARICAP ALIGNMENT						
FM (50)			108 MHz	check	6	7 ... 9V
87.5 - 108 MHz			87.5 MHz	check		1.3 ... 2V
MW (9)			1602 kHz	5123		8.3V ± 0.2V
531 - 1602 kHz			531 kHz	check		1V ± 0.4V
LW (3)			279 kHz	5122		8.3V ± 0.2V
153 - 279 kHz			153 kHz	check		1V ± 0.4V
FM – DETECTION						
FM	98 Mhz 1mV continuous wave ***short pin 21 (IC7101) to ground***	A	98 MHz	5107	1 2	0mV ± 3mV
FM – VCO						
FM	98 Mhz 1 mV continuous wave	A	98 MHz	3142	3	152kHz ± 1 kHz
DISTORTION						
FM	98 Mhz 1 mV 90 % L + 9 % pilot mod = 1kHz	A	98MHz	mixcoil inside Tuner 1110	4	Distortion minimum
AM – IF						
MW	450kHz Δf = 10kHz Low as possible Swept signal	 C	MW	5111	7	symmetrical and max. height ↕
				5112		
	450kHz continuous wave			5114	1 2	0mV ± 2mV
AM - RF						
MW	558kHz Mod = 1kHz 30 % AM 1494 kHz	B *	558kHz	5102	7	MAX ↕
			1494kHz	2106		
LW	198kHz mod = 1kHz 30 % AM		198kHz	5103		MAX

* Signal send via a frame antenna
(..) = tuning grid in kHz

↕ repeat

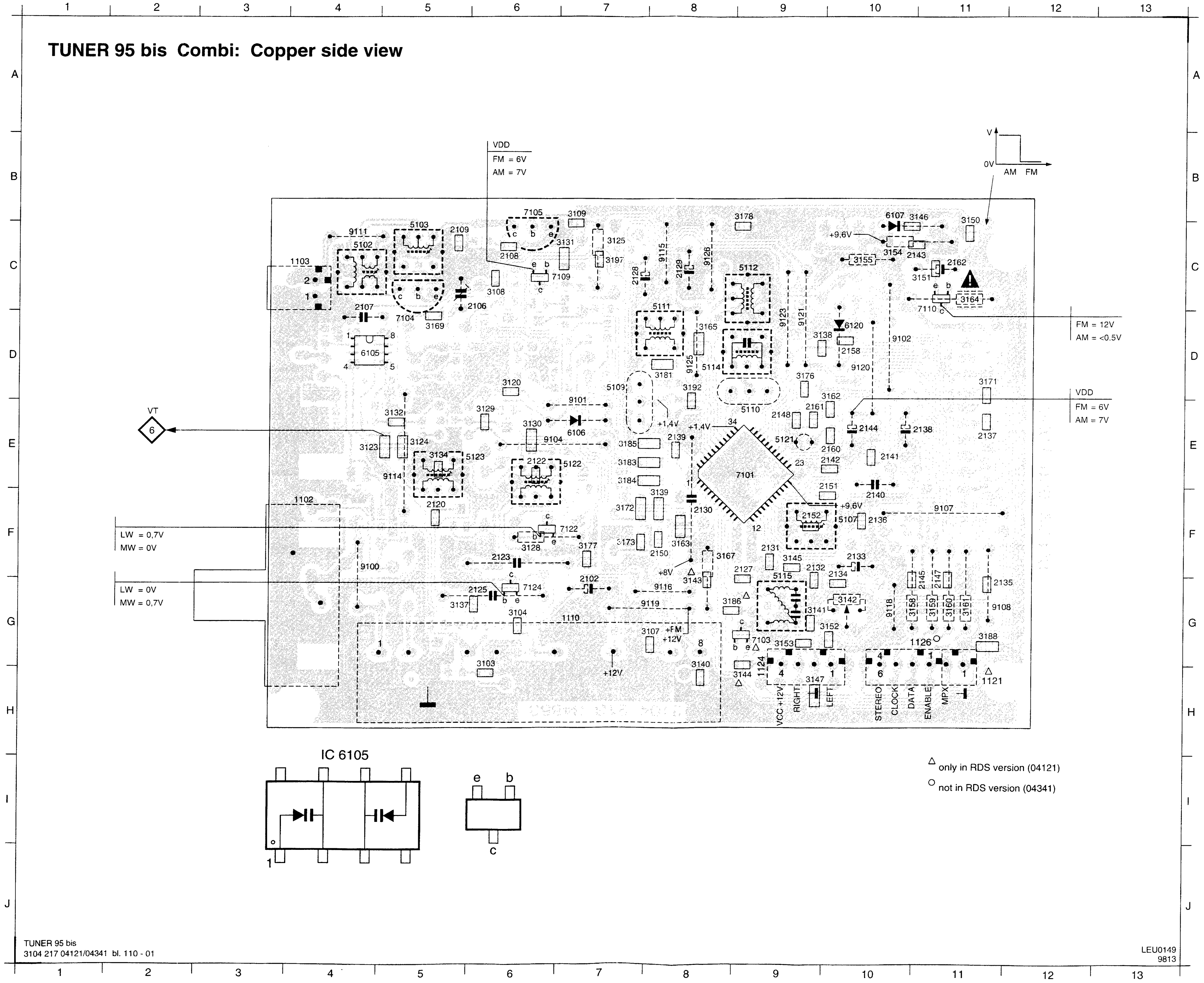
adjtable for 3104 217 04121/04341

BLOCKDIAGRAM


+FM
FM FRONTEND
+B
AGC
1102
Ant1
Fa
IF Out
Fif 10,7 MHz
Fo
Osc Out
GND
f0 = fin + fif
MT
VT
10,7MHz
AM-RF
5102 MW
5103 LW
2106
AM-OSC
5123 MW
5122 LW
MW/LW-SELECTION
TEA5762
VCC1
VDD
10,7MHz
IF-AM
450kHz
5111
IF-AM
450kHz
5112
AM-DET
450kHz
5114
VCC2
FM-IF2
V Stab B
FM-IF2I
V Stab A
AM-MIX Out
AM-IF1 In
AM-IF2
AM-AFC
AFC-
AFC+
STABILIZER
FM IF1
FM IF2
AM IF
AM DET
AFC
CONTROL
FM-IF1I In
FM Osc.
CHARGE PUMP
AM FRONTEND
AM MIXER
AM OSC.
FM DET
AGC
XTAL OSC
STEREO DECODER
I-Tune
AM-RF
Ripple
AM-Osc.
FM GND
RF GND
IF GND
Dig. GND
RF GND
FM-Demod
AGC
AF-Out
Fieldstrength Indc.
MPX-In
VC0
LPF
WRITE Enable
DATA
CLOCK
P1
FM/AM
P0
Mono/ Stereo
Left
Mute
Right
PILOT Filter
10,7MHz
75kHz
3142
ANTI BIRDY FILTER
VC0
RDS
1121
GND
RDS
ENABLE
DATA
CLOCK
STEREO
1124
LEFT
GND
RIGHT
VCC
+FM
VCC1
VDD
VCC2

1102	F4	2107	C4	2128	C7	2136	G10	2144	E10	2160	E9	3120	D6	3132	E5	3143	G8	3153	G9	3163	F8	3176	D9	3188	G11	5111	C8	6106	E7	7110	D11	9108	G11	9121	D9
1103	C4	2108	C6	2129	C8	2137	E11	2145	G11	2161	E9	3123	E4	3134	E5	3144	H9	3154	C10	3164	C11	3177	F7	3192	D8	5112	C9	6107	B10	7122	F7	9111	C4	9123	D9
1110	G7	2109	C5	2130	F8	2138	E10	2147	G11	2162	C11	3124	E5	3137	G5	3145	F9	3155	C10	3165	D8	3178	B8	3197	C7	5114	D8	6120	D10	7124	G6	9114	E5	9125	D8
1121	H11	2120	F5	2131	F9	2139	E8	2148	E9	3103	H6	3125	C7	3138	D9	3146	B10	3158	G11	3167	F8	3181	D8	5102	C4	5115	G9	7101	E9	9100	F4	9115	C8	9126	C8
1124	H9	2122	E6	2132	F9	2140	F10	2150	F8	3104	G6	3128	F6	3139	F8	3147	H9	3159	G11	3169	D5	3183	E7	5103	C5	5121	E9	7103	G9	9101	E7	9116	G8		
1126	G10	2123	F6	2133	F10	2141	E10	2151	F9	3107	G7	3129	E6	3140	H8	3150	C11	3160	G11	3171	D11	3184	E7	5107	F10	5122	E7	7104	D5	9102	D10	9118	G10		
2102	G7	2125	G6	2134	G10	2142	E9	2152	F9	3108	C6	3130	E6	3141	G9	3151	C10	3161	G11	3172	F7	3185	E7	5109	D7	5123	E5	7105	B6	9104	E6	9119	G7		
2106	C5	2127	F9	2135	G11	2143	C10	2158	D10	3109	B7	3131	C6	3142	G10	3152	G9	3162	D9	3173	F7	3186	G8	5110	E9	6105	D4	7109	C6	9107	F11	9120	D10		

TUNER 95 bis Combi: Copper side view


VDD
FM = 6V
AM = 7V
V
0V
AM FM
FM = 12V
AM = <0.5V
VDD
FM = 6V
AM = 7V
VT
6
LW = 0,7V
MW = 0V
LW = 0V
MW = 0,7V
7101
6105
1103
1102
1110
1124
1126
1121
+9,6V
+1,4V
+8V
+FM
+12V
VCC +12V
RIGHT
LEFT
STEREO
CLOCK
DATA
ENABLE
MPX
IC 6105
e
b
c
TUNER 95 bis
3104 217 04121/04341 bl. 110 - 01
LEU0149
9813

△ only in RDS version (04121)

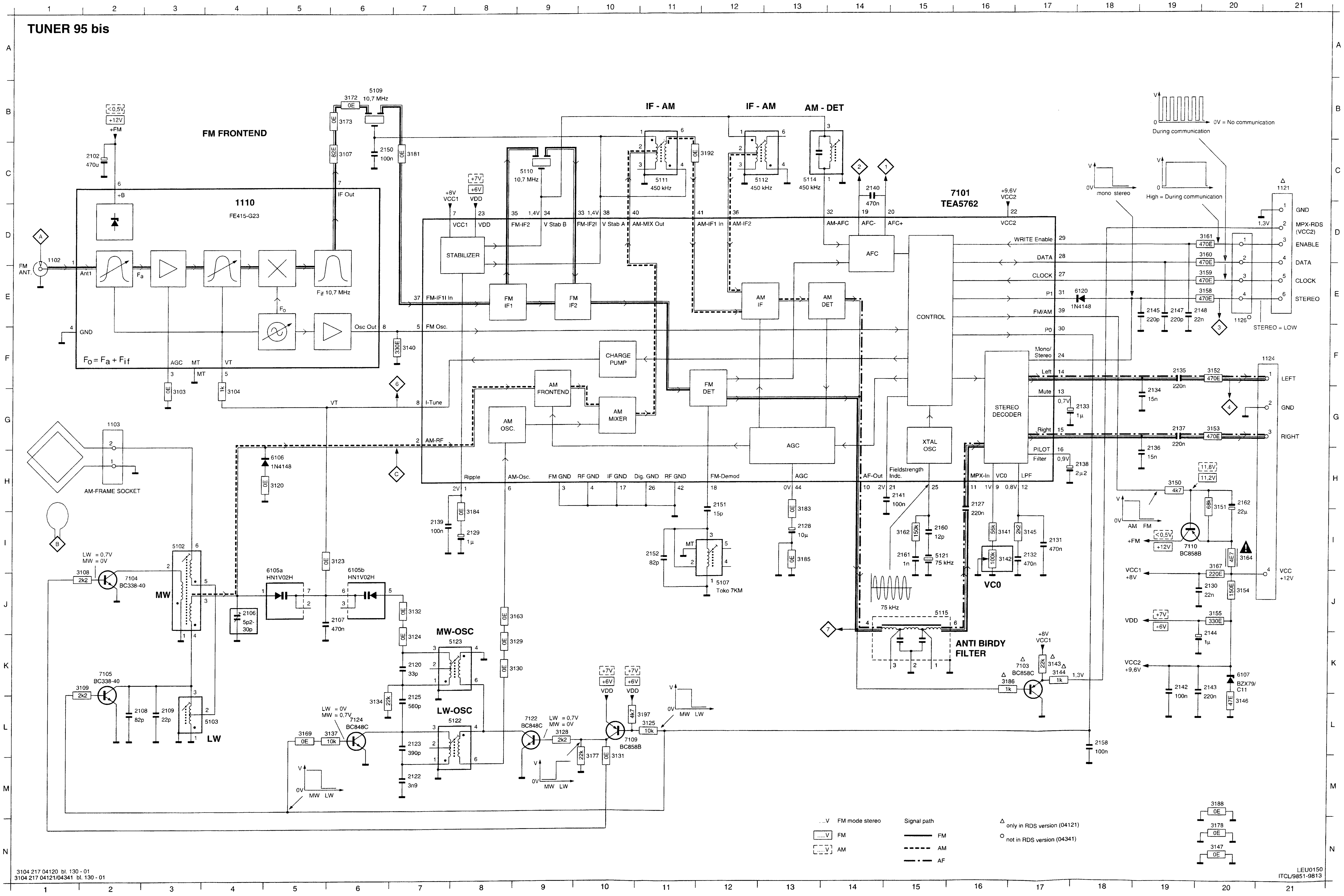
○ not in RDS version (04341)

1102	D1	1124	F21	2107	J6	2122	M7	2128	I13	2132	I17	2136	H19	2140	C14	2144	K20	2150	C6
1103	G2	1126	E20	2108	L2	2123	L7	2129	I8	2133	G18	2137	G19	2141	H15	2145	E19	2151	H12
1110	D4	2102	C2	2109	L3	2125	L7	2130	J20	2134	G19	2138	H18	2142	K19	2147	E19	2152	I11
1121	C21	2106	J4	2120	K7	2127	H16	2131	I17	2135	F19	2139	I7	2143	K20	2148	E19	2158	L18

2160	I15	3104	G4	3120	H5	3128	L9	3132	J7	3141	I16	3145	I17	3151	I20	3155	J20	3161	D19
2161	I15	3107	C6	3123	I6	3129	K8	3134	L6	3142	I16	3146	L20	3152	F20	3158	E19	3162	I15
2162	H20	3108	J1	3124	K7	3130	K8	3137	L5	3143	K17	3147	N20	3153	G20	3159	E19	3163	J8
3103	G3	3109	K1	3125	L11	3131	M10	3140	F7	3144	K17	3150	H19	3154	J20	3160	D19	3164	I20

3167	I20	3177	M10	3184	I8	3192	C12	5107	J12	5112	C12	5122	L7	6106	H5	7103	K17	7110	I19
3169	L5	3178	N20	3185	I13	3197	L11	5109	B6	5114	C13	5123	K7	6107	K20	7104	J2	7122	L9
3172	B6	3181	C7	3186	K16	5102	I3	5110	C9	5115	J15	6105a	I5	6120	E17	7105	K2	7124	L6
3173	B6	3183	I13	3188	M20	5103	L4	5111	C11	5121	I15	6105b	I6	7101	C15	7109	L10		

TUNER 95 bis


FM FRONTEND
1110
FE415-G23
Fo = Fa + Fif
Fif 10,7 MHz
IF Out
Osc Out
AGC
MT
VT
GND
+B
Ant1
FM ANT.
1102
5109
10,7 MHz
5110
10,7 MHz
IF - AM
IF - AM
AM - DET
5111
450 kHz
5112
450 kHz
5114
450 kHz
7101
TEA5762
STABILIZER
FM IF1
FM IF2
CHARGE PUMP
AM FRONTEND
AM MIXER
AM OSC.
FM DET
AM IF
AM DET
AFC
CONTROL
AGC
XTAL OSC
STEREO DECODER
VCC1
VDD
FM-IF2
V Stab B
FM-IF2I
V Stab A
AM-MIX Out
AM-IF1 In
AM-IF2
AM-AFC
AFC-
AFC+
VCC2
WRITE Enable
DATA
CLOCK
FM/AM
Mono/Stereo
Left
Mute
Right
PILOT Filter
FM-IF1I In
FM Osc.
I-Tune
AM-RF
Ripple
AM-Osc.
FM GND
RF GND
IF GND
Dig. GND
RF GND
FM-Demod
AGC
AF-Out
Fieldstrength Indc.
MPX-In
VCO
LPF
1121
GND
MPX-RDS (VCC2)
ENABLE
DATA
CLOCK
STEREO
STEREO = LOW
0V = No communication
During communication
High = During communication
mono
stereo
1124
LEFT
GND
RIGHT
VCC +12V
VCC1 +8V
VDD
VCC2 +9,6V
1103
AM-FRAME SOCKET
MW
LW
5102
5103
7104
BC338-40
7105
BC338-40
LW = 0,7V
MW = 0V
6105a
HN1V02H
6105b
HN1V02H
6106
1N4148
6120
1N4148
MW-OSC
5123
LW-OSC
5122
7124
BC848C
7122
BC848C
7109
BC858B
7110
BC858B
7103
BC858C
6107
BZX79/C11
5107
Toko 7KM
5121
75 kHz
VCO
75 kHz
5115
ANTI BIRDY FILTER
MW LW
...V FM mode stereo
FM
AM
Signal path
FM
AM
AF
Δ only in RDS version (04121)
○ not in RDS version (04341)
3104 217 04120 bl. 130 - 01
3104 217 04121/04341 bl. 130 - 01
LEU0150
ITCL/9851-9813

MISCELLANEOUS

1102	4822 267 10283	YKD31-0432
1103	4822 265 31184	S2B-XH-A-BK
1110	4822 210 10739	FE415-G23

CAPACITORS

2102	4822 124 80791	470UF20%16V
2106	4822 125 60102	5P2-30P N750100V
2107	4822 121 51252	470NF 5%63V
2108	4822 126 13695	82PF 1% NP063V
2109	5322 122 32658	22PF 5% 50V
2120	5322 122 32659	33PF5%50V
2122	5322 126 10465	3,9NF 10% X7R 50V 08
2123	4822 121 10766	390PF 1% 630V KP464
2125	4822 121 10578	560P1%630V
2127	4822 122 32927	220NF +80-20%Y5V 50V
2128	4822 124 41579	10UF 20% 50V
2129	4822 124 40242	1UF20%63V
2130	4822 126 11585	22NF+80-20% Y5V 25V
2131	4822 122 33325	470NF 16V
2132	4822 122 33325	470NF 16V
2133	4822 124 40242	1UF20%63V
2134	4822 126 13188	15NF 5% X7R63V
2135	4822 122 32927	220NF +80-20%Y5V 50V
2136	4822 126 13188	15NF 5% X7R63V
2137	4822 122 32927	220NF +80-20%Y5V 50V
2138	4822 124 41576	2,2UF 20% 50V
2139	4822 126 10002	100NF20%Y5V 25V
2140	4822 121 51252	470NF 5%63V
2141	4822 122 31947	100NF20%Y5V 63V
2142	4822 122 31947	100NF20%Y5V 63V
2143	4822 122 32927	220NF +80-20%Y5V 50V
2144	4822 124 40242	1UF20%63V
2145	4822 122 33575	220PF5%NPO50V
2147	4822 122 33575	220PF5%NPO50V
2148	4822 122 33809	22NF20%Y5V 50V
2150	4822 122 31947	100NF20%Y5V 63V
2151	4822 126 14236	50V 15P 5%
2152	4822 126 13695	82PF 1% NP063V
2158	4822 122 31947	100NF20%Y5V 63V
2160	4822 122 32139	12PF 2%NP0 63V
2161	5322 122 34123	1NF10%X7R 50V
2162	4822 124 81151	22UF 50V

RESISTORS

3103	4822 051 20008	0R00 JUMP. (0805)
3104	4822 051 10102	1K002% 0,25W
3107	4822 051 20829	82R005%0,1W
3108	4822 117 11449	2K2 1%0,1W
3109	4822 117 11449	2K2 1%0,1W
3110	4822 051 20008	0R00 JUMP. (0805)
3111	4822 051 20008	0R00 JUMP. (0805)
3120	4822 051 20008	0R00 JUMP. (0805)
3123	4822 051 10008	0R005% 0,25W
3124	4822 051 10008	0R005% 0,25W
3125	4822 116 83864	10K5%0,5W
3128	4822 116 52256	2K2 5%0,5W
3129	4822 051 20008	0R00 JUMP. (0805)
3130	4822 051 10008	0R005% 0,25W
3131	4822 051 10008	0R005% 0,25W
3132	4822 051 20008	0R00 JUMP. (0805)
3134	4822 051 20223	22K005%0,1W
3135	4822 051 20008	0R00 JUMP. (0805)
3137	4822 117 10833	10K1%0,1W
3138	4822 051 20008	0R00 JUMP. (0805)
3139	4822 051 10008	0R005% 0,25W
3140	4822 051 20331	330R005%0,1W
3141	4822 117 11148	56K1%0,1W
3142	4822 100 11163	100K30%LIN0,1W
3143	4822 051 20223	22K005%0,1W
3144	4822 051 10102	1K002% 0,25W
3145	4822 117 11449	2K2 1%0,1W
3146	4822 051 20479	47R005%0,1W
3147	4822 051 10008	0R005% 0,25W
3150	4822 051 20472	4K705%0,1W
3151	4822 051 20683	68K005%0,1W
3152	4822 051 20471	470R005%0,1W
3153	4822 051 20471	470R005%0,1W
3154	4822 116 83868	150R5%0,5W
3155	4822 116 52219	330E5%0,5W
3158	4822 116 83883	470R5%0,5W
3159	4822 116 83883	470R5%0,5W
3160	4822 116 83883	470R5%0,5W
3161	4822 116 83883	470R5%0,5W
3162	4822 051 20224	220K005%0,1W
3163	4822 051 10008	0R005% 0,25W
3164	4822 052 10478	4R705% 0,33W
3165	4822 051 10008	0R005% 0,25W
3167	4822 116 83872	220R5%0,5W
3169	4822 051 20008	0R00 JUMP. (0805)
3171	4822 051 20008	0R00 JUMP. (0805)
3172	4822 051 10008	0R005% 0,25W
3173	4822 051 20008	0R00 JUMP. (0805)
3176	4822 051 20008	0R00 JUMP. (0805)
3177	4822 051 20223	22K005%0,1W

RESISTORS

3178	4822 051 10008	0R005% 0,25W
3181	4822 051 10008	0R005% 0,25W
3183	4822 051 10008	0R005% 0,25W
3184	4822 051 10008	0R005% 0,25W
3185	4822 051 10008	0R005% 0,25W
3186	4822 051 10102	1K002% 0,25W
3188	4822 051 10008	0R005% 0,25W
3192	4822 051 20008	0R00 JUMP. (0805)
3197	4822 051 20472	4K705%0,1W

COILS & FILTERS

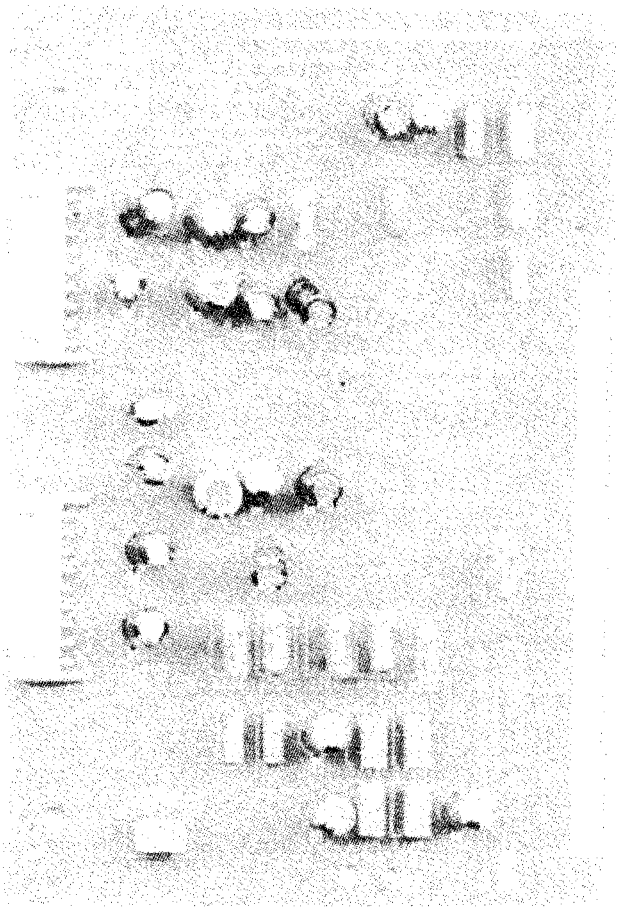
5102	4822 157 71634	MW AERIAL
5103	4822 157 71635	LW AERIAL
5107	4822 157 11443	2U4 10M7
5109	4822 157 71639	SFE10,7MJA10H-A-TF21
5110	4822 242 70665	SFE10,7MS3-A
5111	4822 158 60511	AM-1F
5112	4822 157 70302	F7MCS-12216N
5114	4822 157 70302	F7MCS-12216N
5115	4822 157 71636	BIRDIE COIL
5121	4822 242 10261	T6252F00 (75KHZ)
5122	4822 157 60517	110,00 UH8%
5123	4822 157 60517	110,00 UH8%

DIODES

6105	4822 130 83075	HN1V02H-B
6106	4822 130 30621	1N4148
6107	4822 130 34488	BZX79-B11
6120	4822 130 30621	1N4148

TRANSISTORS & INTERGRATED CIRCUITS

7101	4822 209 90315	TEA5762H/V1
7103	4822 130 42513	BC858C
7104	5322 130 44779	BC338-40
7105	5322 130 44779	BC338-40
7109	5322 130 41983	BC858B
7110	5322 130 41983	BC858B
7122	5322 130 42136	BC848C
7124	5322 130 42136	BC848C



DOLBY PROLOGIC BOARD

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PROLOGIC TEST DESCRIPTION

tion of this description is to explain the most important performance measurements for **DPL** (**D**olby **P**ro-**L**ogic) ervice.

ments (recommended) :
- Dolby Prologic test CD 4822 395 10216
- AC mv meters (4x) L, C, R, S
- Oscilloscope (double beam)
- Distortion meter
- CD player.

G: Be sure that the ground connection (-) of each instrument is not connecteded with the safety earth ⊥ connection. To avoid damage to output amplifiers (balance type) Use only cinch (input) ground connection

G CONDITION :

the loudspeakers for all four output amplifiers with loud resistors according the output impedance for each
r (or use 8 Ω as standard loudresistor).
ume to min. position
+ Treble at 0 db .
urround <Prologic> .
ARGE" size for Center channel.
delay in Surround channel at 20 msec.
rologic test CD in CD player.

TEST DESCRIPTION

put and balance setting for all four channels
ect track 2 :
just L, C, R and S for ≈ 1W output on the loudresistor with master volume. Adjust with L/R balance and
ntre/Surround "TRIM" all four channels to equal level (equal meter readings)
te: 1Watt output corresponds with 2.83V across 8 Ω
$P = U^2/R \rightarrow U = \sqrt{P \times R} = \sqrt{1 \times 8} = 2{,}83V$

quency response for Left and Right channel
quirement : -3 dB points at ≤ 50 Hz and ≥ 15 kHz
ect track 3:
asure (and note) the overall gain of Left channel across the load resistor.
ect track 4:
asure (and note) the overall gain on Right channel across the load resistor.

quency response for Center channel
ossibilitie :
Center size "LARGE" requirements : -3 dB at ≤ 50 Hz and ≥ 15 kHz (same as L/R requirements)
Center size "SMALL" requirements : -3 dB point at ± 100 Hz and ≥ 15 kHz (the difference is the roll-off behaviour of the bass frequencies).
ect track 5 :
asure (and note) the overall gain of Center channel across the load resistor in "LARGE" size (only in sets with
option) and repeat this measurement in "SMALL" size.

quency response for Surround channel
round requirements : -3 dB point at ≤ 100 Hz and ± 7 kHz (6 kHz ... 8 kHz)
difference is the roll-off behaviour of the high treble frequencies.
ect track 6 :
asure (and note) the overall gain of Surround channel across the loud resistor.

Test 5 : *Modified Dolby B type NR decoding freq. response of the Surround channel*
Requirement : Roll off behaviour at ± 5 kHz related to 100 Hz. In this case use 100 Hz as 0 dB reference gain.
Select track 14:
measure (and note) the overall gain of Surround channel across the load resistor.
Note : The output level on track 14 = -35 dB below the 1W output reference of the Surround channel.

Test 6 : *Total harmonic distortion measurements for Left, Center, Right, Surround channels for 1 Watt output*
Note : If necessary use a special CD test filter 20 Hz ... 20 kHz between the output channel and the distortion meter to prevent spurrious products out of audio waves (> 20 kHz) from to the CD player in test.
Select track 3 :
Measure distortion at 1 kHz across the Left channel.
Output load resistor : requirement THD < 0,3 %
Select track 4 :
Measure distortion at 1 kHz across the Right channel.
Output load resistor : requirement THD < 0,3 %
Select track 5 :
Measure distortion at 1 kHz across the Center channel.
Output load resistor : requirements THD < 0,3 %
Center size "LARGE" (if exists) and repeat for center size "SMALL"
Select track 6 :
Measure distortion at 1 kHz across the Surround channel load resistor.
Note : time delay setting = 20 msec.
Requirement THD = < 0,5 %

Test 7: *Signal to noise measurements for Left output amplifier*
Select track 3 :
Use 1W output at 1 kHz on the Left channel output loud resistor as 0 dB reference.
Select track 13 :
(silence) and measure the S/Nratio.--->with ccir/arm filter
Requirements for Left channel ≤ -65 dB

Test 8 : *Signal to noise measurements for Right output amplifier*
Select track 4 :
Use 1W output at 1 kHz on the Right channel output loud resistor as 0 dB reference.
Select track 13 :
(silence) and measure the S/N ratio.
Requirement for Right channel ≤ -65 dB

Test 9 : *Signal to noise measurements for Center output amplifier*
Select track 5 :
Uuse 1W output at 1 kHz on the Center channel (size "SMALL" or "LARGE")
Select track 13 :
(silence) and measure the S/N ratio.
Requirement for Center channel (size "SMALL" or "LARGE") ≤ -65 dB

Test 10 : *Signal to noise measurements for Surround output amplifier*
Select track 6 :
Use 1W output at 1 kHz on the Surround channel output loud resistor as 0 dB reference.
Select track 13 :
(silence) and measure the S/N ratio.
Requirement for Surround channel ≤ -55 dB (in all positions between 15 msec ... 30 msec in sets with variable time delay).

Cross-talk (channel separation) between adjacent and opposite channels
2 possibilities :
1- Centre size "LARGE" (use 1 kHz tone)

Test 11a:
Select track 3 :
For 1 kHz in Left channel and measure the crosstalk in Center, Right, Surround.
Requirement : < -25 dB

Test 12a :

DOLBY PROLOGIC TEST DESCRIPTION

- The intention of this description is to explain the most important performance measurements for **DPL** (**D**olby **P**ro-**L**ogic) sets for service.

- Test instruments (recommended) :
    - Dolby Prologic test CD 4822 395 10216
    - AC mv meters (4x) L, C, R, S
    - Oscilloscope (double beam)
    - Distortion meter
    - CD player.

WARNING: Be sure that the ground connection (-) of each instrument is not connecteded with the safety earth ⊥ connection. To avoid damage to output amplifiers (balance type) Use only cinch (input) ground connection

STARTING CONDITION :

- Replace the loudspeakers for all four output amplifiers with loud resistors according the output impedance for each amplifier (or use 8 Ω as standard loudresistor).
- Set volume to min. position
- Set Bass + Treble at 0 db .
- Select Surround <Prologic> .
- Select "LARGE" size for Center channel.
- Set time delay in Surround channel at 20 msec.
- Dolby Prologic test CD in CD player.

SERVICE TEST DESCRIPTION

Test 1 : *Output and balance setting for all four channels*
Select track 2 :
Adjust L, C, R and S for ≈ 1W output on the loudresistor with master volume. Adjust with L/R balance and Centre/Surround "TRIM" all four channels to equal level (equal meter readings)
Note: 1Watt output corresponds with 2.83V across 8 Ω
$P = U^2/R \rightarrow U = \sqrt{P \times R} = \sqrt{1 \times 8} = 2{,}83\text{V}$

Test 2 : *Frequency response for Left and Right channel*
Requirement : -3 dB points at ≤ 50 Hz and ≥ 15 kHz
Select track 3:
measure (and note) the overall gain of Left channel across the load resistor.
Select track 4:
measure (and note) the overall gain on Right channel across the load resistor.

Test 3 : *Frequency response for Center channel*
2 possibilitie :
1- Center size "LARGE" requirements : -3 dB at ≤ 50 Hz and ≥ 15 kHz (same as L/R requirements)
2- Center size "SMALL" requirements : -3 dB point at ± 100 Hz and ≥ 15 kHz (the difference is the roll-off behaviour of the bass frequencies).
Select track 5 :
measure (and note) the overall gain of Center channel across the load resistor in "LARGE" size (only in sets with this option) and repeat this measurement in "SMALL" size.

Test 4 : *Frequency response for Surround channel*
Surround requirements : -3 dB point at ≤ 100 Hz and ± 7 kHz (6 kHz ... 8 kHz)
The difference is the roll-off behaviour of the high treble frequencies.
Select track 6 :
measure (and note) the overall gain of Surround channel across the loud resistor.

Test 5 : *Modified Dolby B type NR decoding freq. response of the Surround channel*
Requirement : Roll off behaviour at ± 5 kHz related to 100 Hz. In this case use 100 Hz as 0 dB reference gain.
Select track 14:
measure (and note) the overall gain of Surround channel across the load resistor.
Note : The output level on track 14 = -35 dB below the 1W output reference of the Surround channel.

Test 6 : *Total harmonic distortion measurements for Left, Center, Right, Surround channels for 1 Watt output*
Note : If necessary use a special CD test filter 20 Hz ... 20 kHz between the output channel and the distortion meter to prevent spurrious products out of audio waves (> 20 kHz) from to the CD player in test.
Select track 3 :
Measure distortion at 1 kHz across the Left channel.
Output load resistor : requirement THD < 0,3 %
Select track 4 :
Measure distortion at 1 kHz across the Right channel.
Output load resistor : requirement THD < 0,3 %
Select track 5 :
Measure distortion at 1 kHz across the Center channel.
Output load resistor : requirements THD < 0,3 %
Center size "LARGE" (if exists) and repeat for center size "SMALL"
Select track 6 :
Measure distortion at 1 kHz across the Surround channel load resistor.
Note : time delay setting = 20 msec.
Requirement THD = < 0,5 %

Test 7: *Signal to noise measurements for Left output amplifier*
Select track 3 :
Use 1W output at 1 kHz on the Left channel output loud resistor as 0 dB reference.
Select track 13 :
(silence) and measure the S/Nratio.--->with ccir/arm filter
Requirements for Left channel ≤ -65 dB

Test 8 : *Signal to noise measurements for Right output amplifier*
Select track 4 :
Use 1W output at 1 kHz on the Right channel output loud resistor as 0 dB reference.
Select track 13 :
(silence) and measure the S/N ratio.
Requirement for Right channel ≤ -65 dB

Test 9 : *Signal to noise measurements for Center output amplifier*
Select track 5 :
Uuse 1W output at 1 kHz on the Center channel (size "SMALL" or "LARGE")
Select track 13 :
(silence) and measure the S/N ratio.
Requirement for Center channel (size "SMALL" or "LARGE") ≤ -65 dB

Test 10 : *Signal to noise measurements for Surround output amplifier*
Select track 6 :
Use 1W output at 1 kHz on the Surround channel output loud resistor as 0 dB reference.
Select track 13 :
(silence) and measure the S/N ratio.
Requirement for Surround channel ≤ -55 dB (in all positions between 15 msec ... 30 msec in sets with variable time delay).

Cross-talk (channel separation) between adjacent and opposite channels
2 possibilities :
1- Centre size "LARGE" (use 1 kHz tone)

Test 11a:
Select track 3 :
For 1 kHz in Left channel and measure the crosstalk in Center, Right, Surround.
Requirement : < -25 dB

Test 12a :
Select track 4 for 1 kHz in Right channel and measure the crosstalk in Surround , Left, Center.
Requirement : < -25 dB

Test 13a :
Select track 5 :
For 1 kHz in Center channel and measure the crosstalk in Left, Right, Surround.

Requirement : < -25 dB
Test 14a :
Select track 6 :
For 1 kHz in Surround channel and measure the crosstalk in Left, Center, Right.
Requirement : < -25 dB
2- Centre mode "normal" (use 3 kHz or 1 kHz tone)
Test 11b :
Select track 3 :
For 3 kHz in Left channel and measure the crosstalk in Center, Right, Surround
Requirement : < -25 dB
Test 12b :
Select track 4 :
For 3 kHz in Right channel and measure the crosstalk in Surround, Left, Center
Requirement : < -25 dB
Test 13b :
Select track 5 :
For 3 kHz in Centre channel and measure the crosstalk in Left, Right, Surround
Requirement : < -25 dB
Test 14b :
Select track 6 :
For 1 kHz in Surround channel and measure the crosstalk in Left, Center, Right
Requirement : < -25 dB

Inputs overload test (headroom to visible clipping)
General :
Before starting these tests set Master Volume -15 dB lower to make a new output reference (1W on loudresistors).
Requirement : check on scope for no visible signal clipping or measure THD <1,5 %
Test 15 :
Select track 7 :
Check the Left output signal between 20 Hz ... 20 kHz
Test 16 :
Select track 8 :
Check the Right output signal between 20 Hz ... 20 kHz
Test 17 :
Select track 9 :
Check the Center output signal
CENTER "SMALL" between 100 Hz ... 20 kHz
CENTER "LARGE" between 20 Hz ... 20 kHz
Test 18 :
Select track 11 :
Check the Surround output signal between 50 Hz ... 7 kHz

Test 19 :*Center Mode Check*
Select Center size "SMALL".
a - Select track 5 at 1 kHz :
Adjust the Center output again with master volume for 1W output as 0 dB reference.
b - Select on track 5 the 100 Hz :
Signal to check the roll-off behaviour at -3 dB on the Center output
c - Select on track 5 the 50 Hz :
Signal and measure on the Left and Right output channels.
The lost 50 Hz signal on the Center output is equally splitted and added to the L and R channels.

Test 20 : *Center Mode Check*
Select Center size "LARGE"
Repeat test 19 a,b and c
The difference is no roll off behaviour at 100 Hz (Center) and no splitted bass (50 Hz signal) added to L and R.

Test 21 : *Center Mode Check*
Select Center mode phantom = Center speaker "No"
Select track 5 (20 Hz ... 20 kHz) :
No output signals on the Center output or at least minimum -40 dB related to 1W outputs.
Measure now on the Left and Right output channels : the lost Center signals are equally splitted and added to these left and right channels (- 3 dB)

Test 22 : *3 CH mode control*
Select Front 3 stereo (Rear speaker "No")
Select track 6 (100 Hz ... 7 kHz):
No output signals on the Surround output channel or at least minimum -40 dB related to 1W output.
Measure now at the Left and Right output channels : the lost Surround signals are equally splitted and added to the Left and Right output channels (-3 dB)

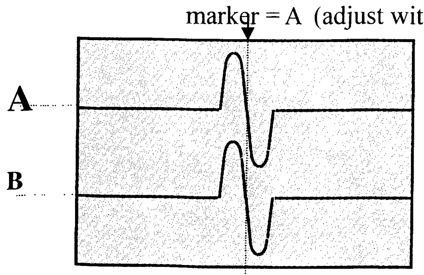
Test 23 : *2 CH mode control (stereo)*
Select Surround "OFF"
Select track 5 :
No output on Centre output channel
Select track 6 :
No output on Surround output channel

Test 24 : *Time delay control in Surround channel*

- Principle description encoded burst signal spots (see fig. 1)
  1- Tone burst 1 kHz during 1 msec with interval time at 20 msec are given at the same time to the L; R inputs. (in phase 0°)
  2- The next tone burst is given at the same time to the L R input, but in reverse phase to the R input (180°).
  These 2 tone bursts are repeated continuously during 2 minutes.
- Principle description decoded signal spots in Center/Surround channel
  - In case of 20 msec time delay mode the results are shown in fig. 1 in Center and Surround channel.
    The center spots in Center channel can be used as "Marker" spots (trigger signal) → repeated every 40 msec.
    The delayed surround spots occur at the same time as the center spots (markers)
  - When time delay mode is changed to 15 msec the delayed surround spots move to the left with respect to the centre mark spots.
  - When time delay mode is changed to 25 msec or 30 msec the delayed surround spots move to the right with respect to the center spots.
  - In case of no time delay ! (faulty condition) the surround spots fall just between 2 center markers spots (20 msec)
- **How to check with a double beam scope**
  WARNING: Be sure that the ground connection (-) of each instrument is not connecteded with the safety earth ⊥ connection. To avoid damage to output amplifiers (balance type) Use only cinch (input) ground connection

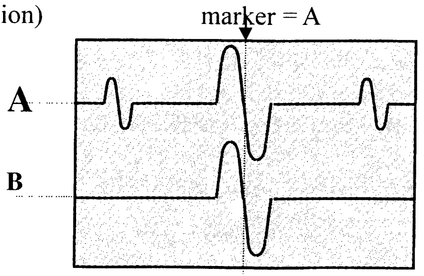
- Select Pro Logic size "LARGE" or "SMALL" (phantom in case of no Center output.)
- Select 20 msec time delay in Surround channel.
- Adjust scope at 5 msec/division and trigger at A input
- Connect input A to Center channel (or L or R in case of phantom mode)
- Connect input B to Surround channel
- Adjust trigger level and the X position to set pulse A in the middle of the scope . see fig.2 (if L or R used in phantom mode choose the largest (amplitude) pulse. see fig 3

Select track 24:
Pulse A = 20 msec marker
Pulse B = delayed surround signal pulse



20msec time delay

Fig 2



20msec in case of phantom mode

Fig 3

Change time delay to 15 msec (only in versions with variable delay).
he surround pulse in channel B moves to the left with respect to side from center marker (channel A) position.
Change time delay to 25 or 30 msec (versions with variable delay).
The surround pulse in channel B moves to the right with respect to center marker (channel A) position.

Time delay with track 6

Alternative methode :
The functional operation of the time delay can be made visible with a lisajous figure, with an single beam scope.
Connect X-direction on Surround output
Connect Y-direction on Left or Right output/input.
Note : be careful and use only 1 ground connected to scope.
Select track 6 (surround test) :
Make the lisajous figure visible on the scope (amplitude adjust) see fig. 4

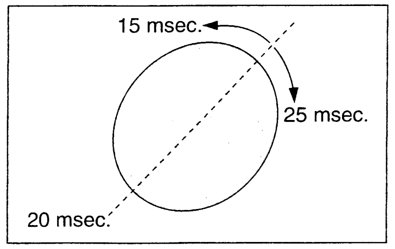

15 msec.
25 msec.
20 msec.

Fig 4 Lisajous out of phase
Time delay = OK

Note : in sets with variable time delay the ellipse of the lisajous figure must be always open. Changing the time delay changes the direction of the circle accordingly.

CHANNEL modes:

Surround OFF (Stereo) 2 channel mode
Signal on :L out (2703) and R out (2704)

Surround ON
-Prologic 4 channel mode → all four outputs are used
Signal on : L out (2703), R out (2704), Center out (2705), Surround (2706).

-Front 3 stereo → No surround speaker available
The surround information is equelly to the left and right outputs.
Signal on : L out (2703), R out (2704), Center out (2705).

-HALL
Signal on : L out (2703), R out (2704), Surround (2706).

Subwoufer out. not in all versions
Signal on : Subwoofer out (2788).

(….) as indicated on the component side of the DPL decoder board.

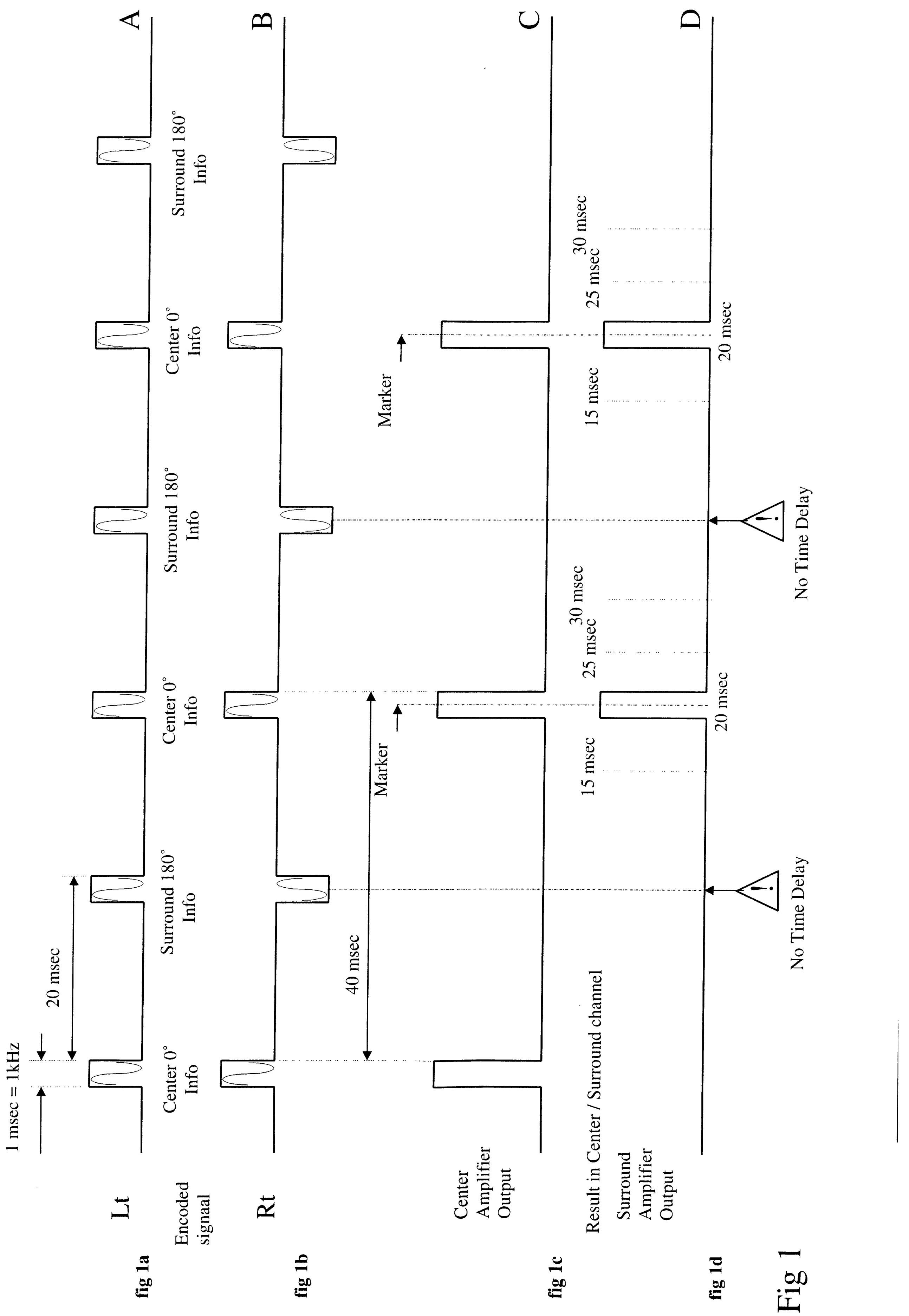
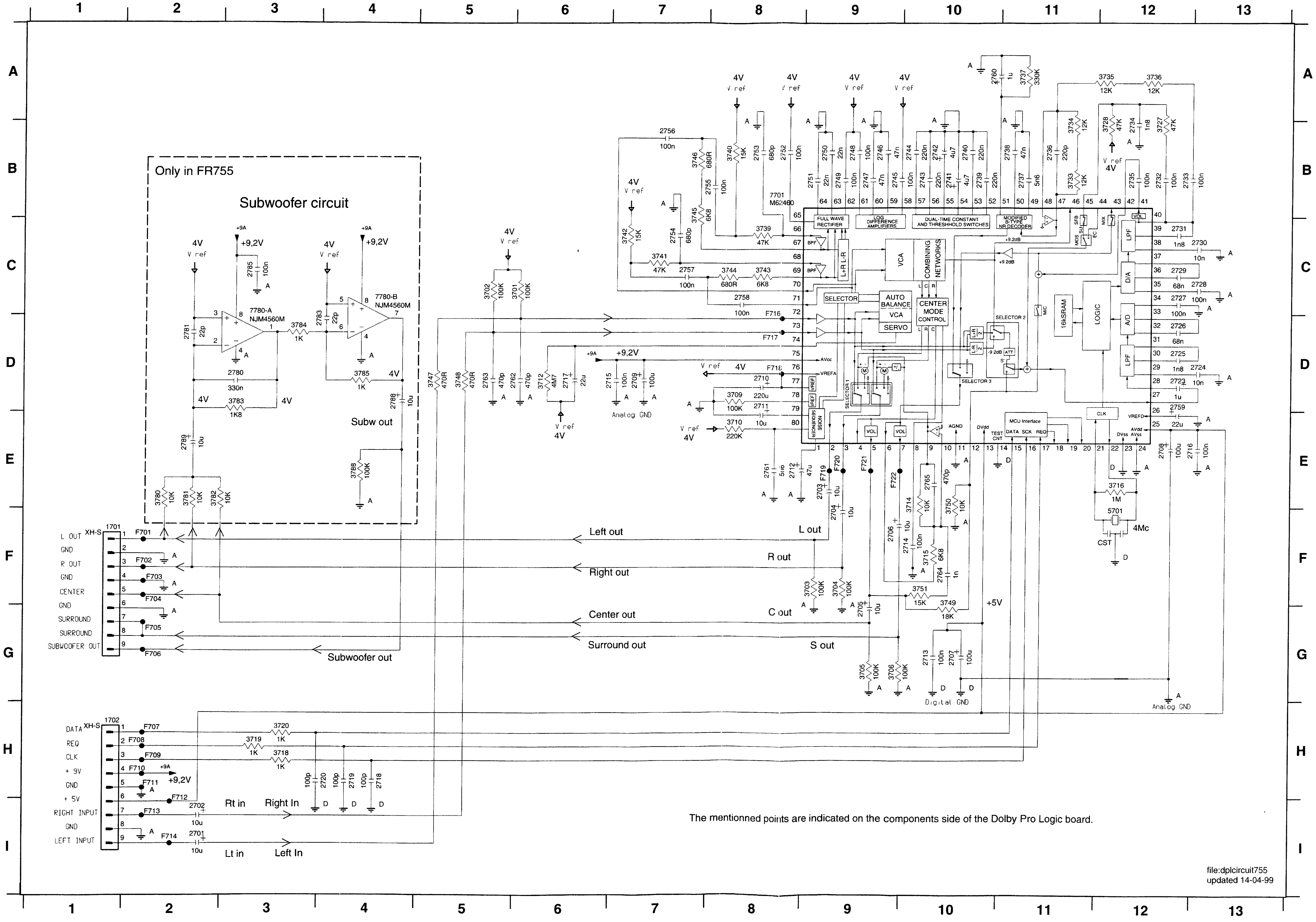

A
B
C
D
Surround 180° Info
Center 0° Info
Surround 180° Info
Center 0° Info
Surround 180° Info
Center 0° Info
Marker
Marker
30 msec
25 msec
15 msec
20 msec
30 msec
25 msec
15 msec
20 msec
No Time Delay
No Time Delay
20 msec
40 msec
1 msec = 1kHz
fig 1a
Lt
Encoded signaal
fig 1b
Rt
Center Amplifier Output
fig 1c
Result in Center / Surround channel
Surround Amplifier Output
fig 1d

Fig 1

DOLBY PROLOGIC - CIRCUIT DIAGRAM

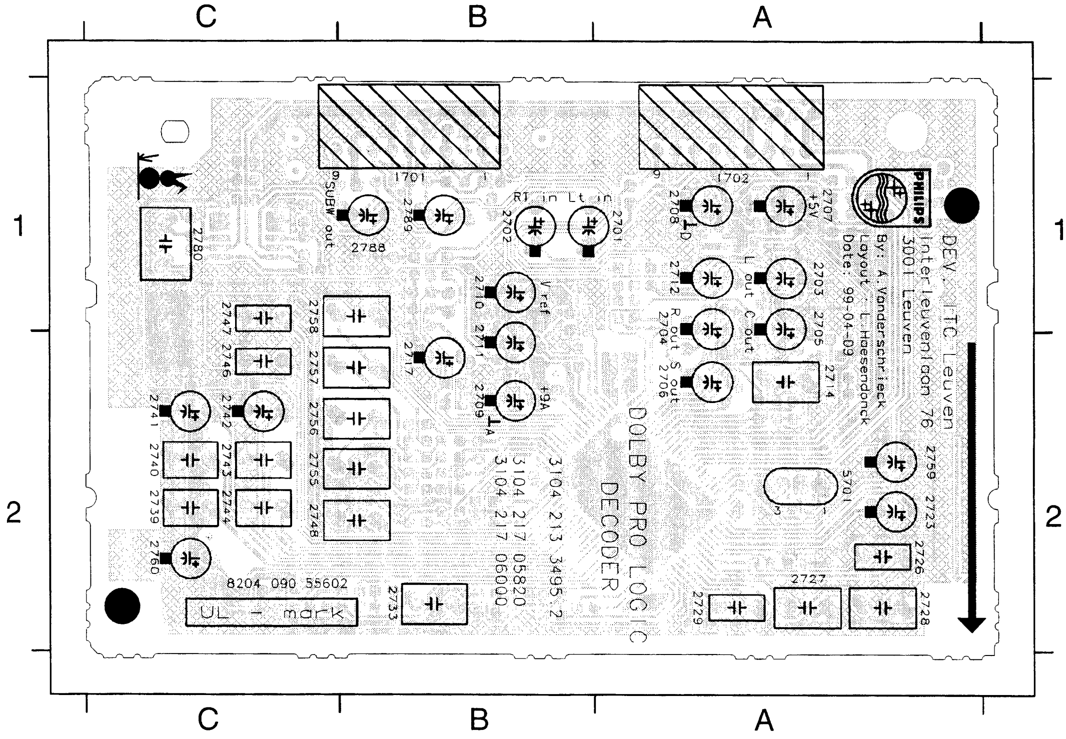

Only in FR755
Subwoofer circuit
7780-A NJM4560M
7780-B NJM4560M
Subw out
7701 M62460
FULL WAVE RECTIFIER
LOG DIFFERENCE AMPLIFIERS
DUAL-TIME CONSTANT AND THRESHHOLD SWITCHES
MODIFIED B-TYPE NR DECODER
VCA
COMBINING NETWORKS
SELECTOR
AUTO BALANCE
CENTER MODE CONTROL
SERVO
SELECTOR 1
SELECTOR 2
SELECTOR 3
NOISE SEQUENCER
16kSRAM
LOGIC
LPF
D/A
A/D
CLK
MCU Interface
DATA SCK REQ
TEST CNT
AGND
Analog GND
Digital GND
4Mc
CST
L OUT
GND
R OUT
CENTER
SURROUND
SUBWOOFER OUT
DATA
REQ
CLK
+ 9V
+ 5V
RIGHT INPUT
LEFT INPUT
XH-S 1701
XH-S 1702
Left out
Right out
Center out
Surround out
Subwoofer out
L out
R out
C out
S out
Rt in
Right In
Lt in
Left In
+9,2V
+5V
4V
V ref

The mentionned points are indicated on the components side of the Dolby Pro Logic board.

file:dplcircuit755
updated 14-04-99

1701	F1
1702	H1
2701	I2
2702	I2
2703	E9
2704	F9
2705	G9
2706	F9
2707	G10
2708	E12
2709	D7
2710	D8
2711	D8
2712	E8
2713	G10
2714	F10
2715	D7
2716	E13
2717	D6
2718	H4
2719	H4
2720	H4
2723	D12
2724	D13
2725	D12
2726	D12
2727	C12
2728	C13
2729	C12
2730	C13
2731	C12
2732	B12
2733	B12
2734	B12
2735	B12
2736	B11
2737	B11
2738	B11
2739	B10
2740	B10
2741	B10
2742	B10
2743	B10
2744	B10
2745	B9
2746	B9
2747	B9
2748	B9
2749	B9
2750	B9
2751	B9
2752	B8
2753	B8
2754	C7
2755	B8
2756	B7
2757	C7
2758	C8
2759	D12
2760	A10
2761	E8
2762	D6
2763	D5
2764	F10
2765	E10
2780	D3
2781	D2
2783	D4
2785	C3
2788	D4
2789	E2
3701	C6
3702	C5
3703	F9
3704	F9
3705	G9
3706	G9
3709	D8
3710	E8
3712	D6
3714	E10
3715	F10
3716	E12
3718	H3
3719	H3
3720	H3
3727	B12
3728	B12
3733	B11
3734	B11
3735	A12
3736	A12
3737	A11
3739	C8
3740	B8
3741	C7
3742	C7
3743	C8
3744	C8
3745	B7
3746	B7
3747	D5
3748	D5
3749	F10
3750	E10
3751	F10
3780	E2
3781	E2
3782	E2
3783	D3
3784	D3
3785	D4
3788	E4
4720	H13
4721	H13
5701	F12
7701	B8
7780-A	C3
7780-B	C4
F701	F2
F702	F2
F703	F2
F704	F2
F705	G2
F706	G2
F707	H2
F708	H2
F709	H2
F710	H2
F711	H2
F712	I2
F713	I2
F714	I2
F716	D8
F717	D8
F718	D8
F719	E9
F720	E9
F721	E9
F722	E9
F723	H13
F724	H13
F725	H13

DOLBY PROLOGIC BOARD - COMPONENT VIEW


C
B
A
1
2
1701
1702
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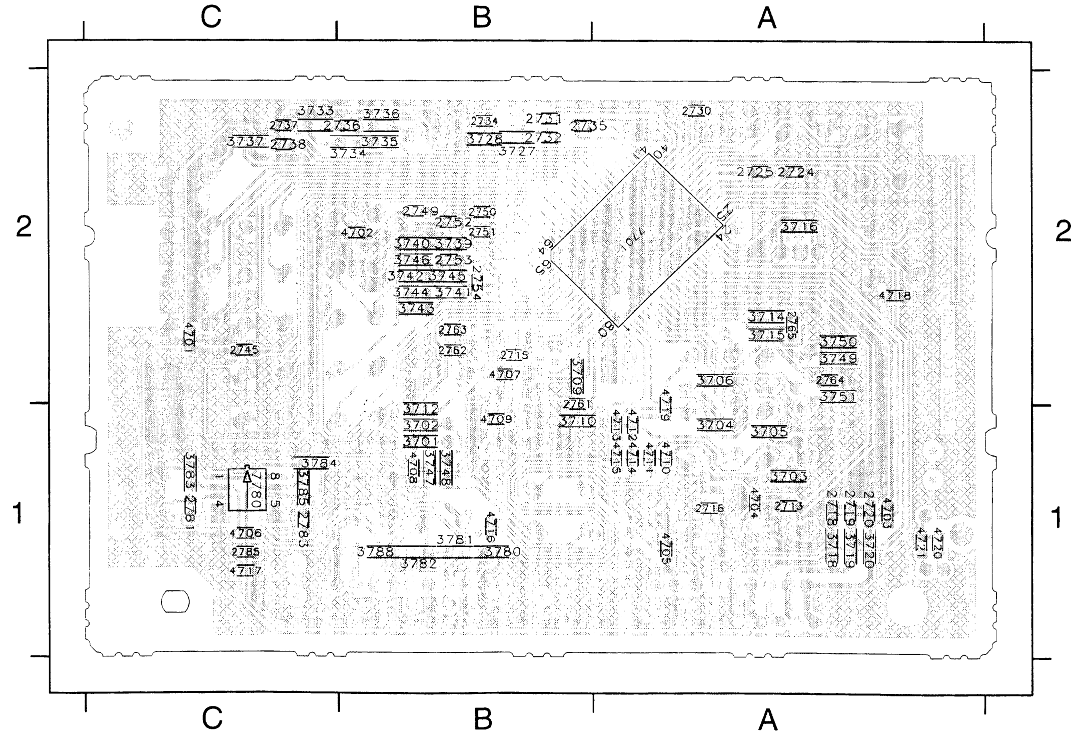
5701
SUBW out
Rt in
Lt in
+5V
V ref
+9A
L out
C out
R out
S out
DEV. ITC Leuven
Interleuvenlaan 76
3001 Leuven
By: A. Vanderschrieck
Layout : L. Haesendonck
Date: 99-04-09
PHILIPS
DOLBY PRO LOGIC
DECODER
3104 213 3495.2
3104 217 05820
3104 217 06000
8204 090 55602
UL - mark

1701	B1
1702	A1
2701	A1
2702	B1
2703	A1
2704	A1
2705	A1
2706	A2
2707	A1
2708	A1
2709	B2
2710	B1
2711	B2
2712	A1
2714	A2
2717	B2
2723	A2
2726	A2
2727	A2
2728	A2
2729	A2
2733	B2
2739	C2
2740	C2
2741	C2
2742	C2
2743	C2
2744	C2
2746	C2
2747	C1
2748	C2
2755	C2
2756	C2
2757	C2
2758	C1
2759	A2
2760	C2
2780	C1
2788	B1
2789	B1
5701	A2

DOLBY PROLOGIC BOARD - COPPER SIDE VIEW


C
B
A
2
1
7701
7780
3733
3736
3737
3735
3734
3728
3727
2730
2725
2724
3716
4718
4702
4701
2745
3740
3739
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3742
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3743
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2750
2751
2752
2753
2754
2763
2762
2715
4707
3709
2761
3710
3712
3702
3701
4709
4708
3747
3748
3714
3715
2765
3706
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3749
2764
3751
3704
3705
3703
4719
4712
4714
4713
4715
4711
4710
2716
4704
2713
2718
3718
2719
3719
2720
3720
4703
4721
4720
4705
4716
3781
3788
3782
3780
3784
3785
2783
3783
2781
4706
2785
4717

2713	A1
2715	B2
2716	A1
2718	A1
2719	A1
2720	A1
2724	A2
2725	A2
2730	A2
2731	B2
2732	B2
2734	B2
2735	B2
2736	B2
2737	C2
2738	C2
2745	C2
2749	B2
2750	B2
2751	B2
2752	B2
2753	B2
2754	B2
2761	A2
2762	B2
2763	B2
2764	A2
2765	A2
2781	C1
2783	C1
2785	C1
3701	B1
3702	B1
3703	A1
3704	A1
3705	A1
3706	A2
3709	B2
3710	B1
3712	B2
3714	A2
3715	A2
3716	A2
3718	A1
3719	A1
3720	A1
3727	B2
3728	B2
3733	C2
3734	B2
3735	B2
3736	B2
3737	C2
3739	B2
3740	B2
3741	B2
3742	B2
3743	B2
3744	B2
3745	B2
3746	B2
3747	B1
3748	B1
3749	A2
3750	A2
3751	A2
3780	B1
3781	B1
3782	B1
3783	C1
3784	C1
3785	C1
3788	B1
4701	C2
4702	C2
4703	A1
4704	A1
4705	A1
4706	C1
4707	B2
4708	B1
4709	B1
4710	A1
4711	A1
4712	A1
4713	A1
4714	A1
4715	A1
4716	B1
4717	C1
4718	A2
4719	A2
4720	A1
4721	A1
7701	A2
7780	C1

ELECTRICAL PARTSLIST - DOLBY PROLOGIC BOARD

MISCELLANEOUS

1003	4822 214 13051	DPL MODULE

CAPACITORS

2701	4822 124 41579	10UF 20% 50V
2702	4822 124 41579	10UF 20% 50V
2703	4822 124 41579	10UF 20% 50V
2704	4822 124 41579	10UF 20% 50V
2705	4822 124 41579	10UF 20% 50V
2706	4822 124 41579	10UF 20% 50V
2707	4822 124 41584	100UF 20% 10V
2708	4822 124 41584	100UF 20% 10V
2709	4822 124 41584	100UF 20% 10V
2710	4822 124 11912	220UF 20% 6,3V
2711	4822 124 41579	10UF 20% 50V
2712	4822 124 40433	47UF20% 25V
2713	4822 126 13196	100NF 10% 0805 X7R 2
2714	5322 121 42386	100NF 5% 63V
2715	4822 126 13196	100NF 10% 0805 X7R 2
2716	4822 126 13196	100NF 10% 0805 X7R 2
2717	4822 124 81151	22UF 50V
2718	5322 122 32531	100PF 5%NP0 50V
2719	5322 122 32531	100PF 5%NP0 50V
2720	5322 122 32531	100PF 5%NP0 50V
2723	4822 124 40242	1UF20% 63V
2724	4822 122 33177	10NF 20% X7R 50V
2725	4822 126 10847	1,8NF10%X7R 63V
2726	5322 121 42465	68NF 5% 63V
2727	5322 121 42386	100NF 5% 63V
2728	5322 121 42386	100NF 5% 63V
2729	5322 121 42465	68NF 5% 63V
2730	4822 122 33177	10NF 20% X7R 50V
2731	4822 126 10847	1,8NF10%X7R 63V
2732	4822 126 13196	100NF 10% 0805 X7R 2
2733	5322 121 42386	100NF 5% 63V
2734	4822 126 10847	1,8NF10%X7R 63V
2735	4822 126 13196	100NF 10% 0805 X7R 2
2736	4822 122 33575	220PF 5%NPO 50V
2737	4822 122 32646	5,6NF10%X7R 50V
2738	4822 122 33797	47NF20%Y5V 50V
2739	4822 121 42408	220NF 5% 63V
2740	4822 121 42408	220NF 5% 63V
2741	4822 124 40769	4,7UF20% 100V
2742	4822 124 40769	4,7UF20% 100V
2743	4822 121 42408	220NF 5% 63V
2744	4822 121 42408	220NF 5% 63V
2745	4822 126 13196	100NF 10% 0805 X7R 2
2746	4822 121 43526	47NF 5% 250V
2747	4822 121 43526	47NF 5% 250V
2748	5322 121 42386	100NF 5% 63V
2749	4822 126 13196	100NF 10% 0805 X7R 2
2750	5322 122 32654	22NF10%X7R 63V
2751	5322 122 32654	22NF10%X7R 63V
2752	4822 126 13196	100NF 10% 0805 X7R 2
2753	4822 122 32535	680PF10%X7R 63V
2754	5322 126 10184	680P 5% NPO 50V.
2755	5322 121 42386	100NF 5% 63V
2756	5322 121 42386	100NF 5% 63V
2757	5322 121 42386	100NF 5% 63V
2758	5322 121 42386	100NF 5% 63V
2759	4822 124 81151	22UF 50V
2760	4822 124 40242	1UF20% 63V
2761	4822 122 32646	5,6NF10%X7R 50V
2762	5322 122 32268	470PF 10% 50V
2763	5322 122 32268	470PF 10% 50V
2764	5322 122 34123	1NF 50V
2765	5322 122 32268	470PF 50V
2780	5322 121 42661	330NF 5% 63V
2781	5322 122 32658	22PF 5% 50V
2783	5322 122 32658	22PF 5% 50V
2785	4822 126 13196	100NF 10% 0805 X7R 2
2788	4822 124 41579	10UF 20% 50V
2789	4822 124 41579	10UF 20% 50V

RESISTORS

3701	4822 051 20104	100K00 5% 0,1W
3702	4822 051 20104	100K00 5% 0,1W
3703	4822 051 20104	100K00 5% 0,1W
3704	4822 051 20104	100K00 5% 0,1W
3705	4822 051 20104	100K00 5% 0,1W
3706	4822 051 20104	100K00 5% 0,1W
3709	4822 051 20104	100K00 5% 0,1W
3710	4822 117 13579	220K 1% 0.1W RC12H 0
3712	4822 051 20475	4M70 5% 0,1W
3714	4822 117 10833	10K 1% 0,1W
3715	4822 117 11507	6K8 1% 0,1W
3716	4822 051 20105	1M00 5% 0,1W
3718	4822 051 10102	1K00 2% 0,25W
3719	4822 051 10102	1K00 2% 0,25W
3720	4822 051 10102	1K00 2% 0,25W
3727	4822 117 10834	47K 1% 0,1W
3728	4822 117 10834	47K 1% 0,1W
3733	4822 117 11383	12K 1% 0,1W
3734	4822 117 11383	12K 1% 0,1W
3735	4822 117 11383	12K 1% 0,1W
3736	4822 117 11383	12K 1% 0,1W
3737	4822 051 20334	330K00 5% 0,1W
3739	4822 117 10834	47K 1% 0,1W
3740	4822 051 20153	15K00 5% 0,1W
3741	4822 117 10834	47K 1% 0,1W
3742	4822 051 20153	15K00 5% 0,1W
3743	4822 117 11507	6K8 1% 0,1W
3744	4822 051 20681	680R00 5% 0,1W
3745	4822 117 11507	6K8 1% 0,1W
3746	4822 051 20681	680R00 5% 0,1W
3747	4822 051 20471	470R00 5% 0,1W
3748	4822 051 20471	470R00 5% 0,1W
3749	4822 117 10965	18k 1% 0.1W
3750	4822 117 10833	10k 1% 0,1W
3751	4822 051 20153	15k 1% 0,1W
3780	4822 117 10833	10K 1% 0,1W
3781	4822 117 10833	10K 1% 0,1W
3782	4822 117 10833	10K 1% 0,1W
3783	4822 051 20182	1K80 5% 0,1W
3784	4822 051 10102	1K00 2% 0,25W
3785	4822 051 10102	1K00 2% 0,25W
3788	4822 051 20104	100K00 5% 0,1W

JUMPERS

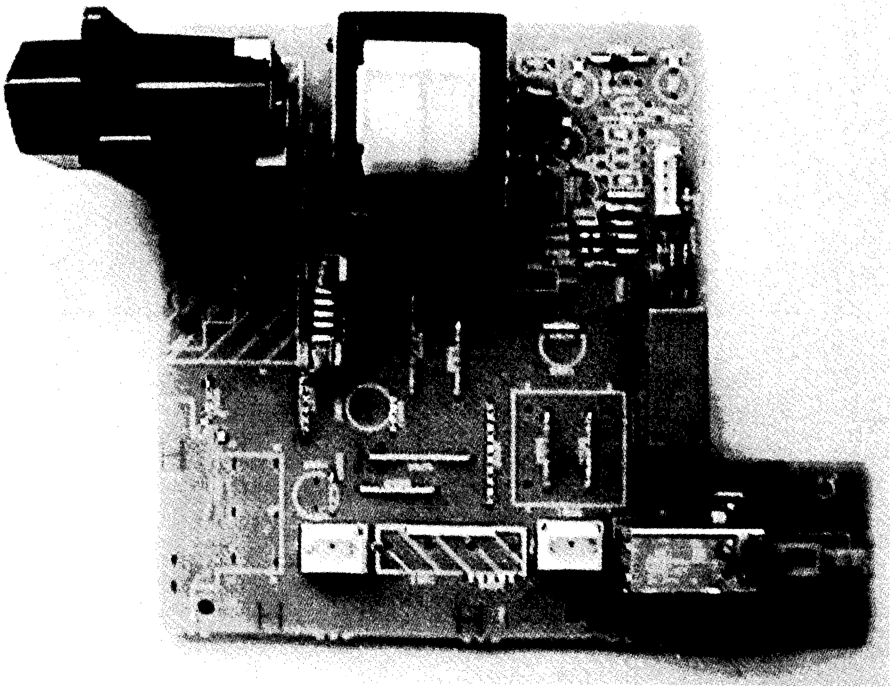
4701	4822 051 20008	0R00 JUMP. (0805)
to		
4720	4822 051 20008	0R00 JUMP. (0805)

FILTERS

5701	4822 242 72527	CST4,00MGW-TF01

ICs

7701	4822 209 17347	M62460FP
7780	4822 209 83357	NJM4560M JRC



MAINS BOARD

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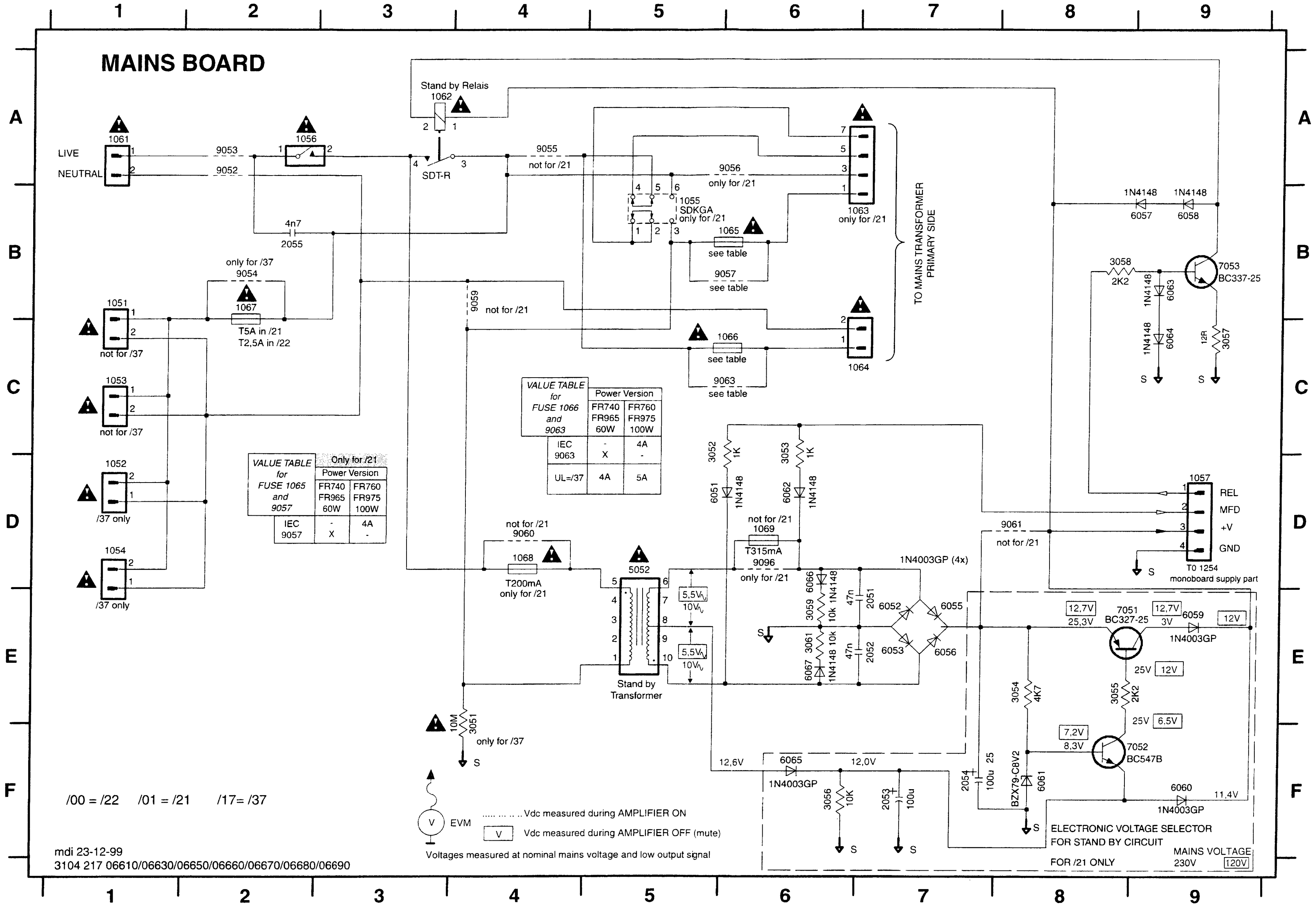
Circuit diagram 9-2
Component layout 9-3
Partslist 9-5

MAINS BOARD - CIRCUIT DIAGRAM


MAINS BOARD
1 2 3 4 5 6 7 8 9
A B C D E F
1061
LIVE
NEUTRAL
9053
9052
1056
Stand by Relais
1062
SDT-R
9055
not for /21
9056
only for /21
1055
SDKGA
only for /21
1065
see table
9057
see table
1063
only for /21
TO MAINS TRANSFORMER PRIMARY SIDE
4n7
2055
only for /37
9054
1067
T5A in /21
T2,5A in /22
1051
not for /37
1053
not for /37
1052
/37 only
1054
/37 only
9059
not for /21
1066
see table
9063
see table
1064
3052 1K
3053 1K
6051 1N4148
6062 1N4148
not for /21
1069
T315mA
9096
only for /21
not for /21
9060
1068
T200mA
only for /21
5052
Stand by Transformer
5,5V
10V
1N4003GP (4x)
6066 1N4148
3059 10k
3061 10k
6067 1N4148
47n
2051
2052
6052
6055
6053
6056
9061
not for /21
1N4148
6057
1N4148
6058
3058
2K2
7053
BC337-25
1N4148 6063
1N4148 6064
12R 3057
1057
REL
MFD
+V
GND
T0 1254
monoboard supply part
12,7V
25,3V
7051
BC327-25
12,7V
3V
6059
12V
1N4003GP
25V
12V
3055 2K2
3054 4K7
25V
6.5V
7,2V
8,3V
7052
BC547B
6060
11,4V
1N4003GP
6061
BZX79-C8V2
2054
100u 25
12,6V
6065
12,0V
1N4003GP
3056 10K
2053 100u
ELECTRONIC VOLTAGE SELECTOR
FOR STAND BY CIRCUIT
FOR /21 ONLY
MAINS VOLTAGE
230V
120V
10M
3051
only for /37
EVM
V
S

VALUE TABLE for FUSE 1065 and 9057	Only for /21	
	Power Version	
	FR740 FR965 60W	FR760 FR975 100W
IEC 9057	- X	4A -

VALUE TABLE for FUSE 1066 and 9063	Power Version	
	FR740 FR965 60W	FR760 FR975 100W
IEC 9063	- X	4A -
UL=/37	4A	5A

/00 = /22 /01 = /21 /17= /37

.................Vdc measured during AMPLIFIER ON

V Vdc measured during AMPLIFIER OFF (mute)

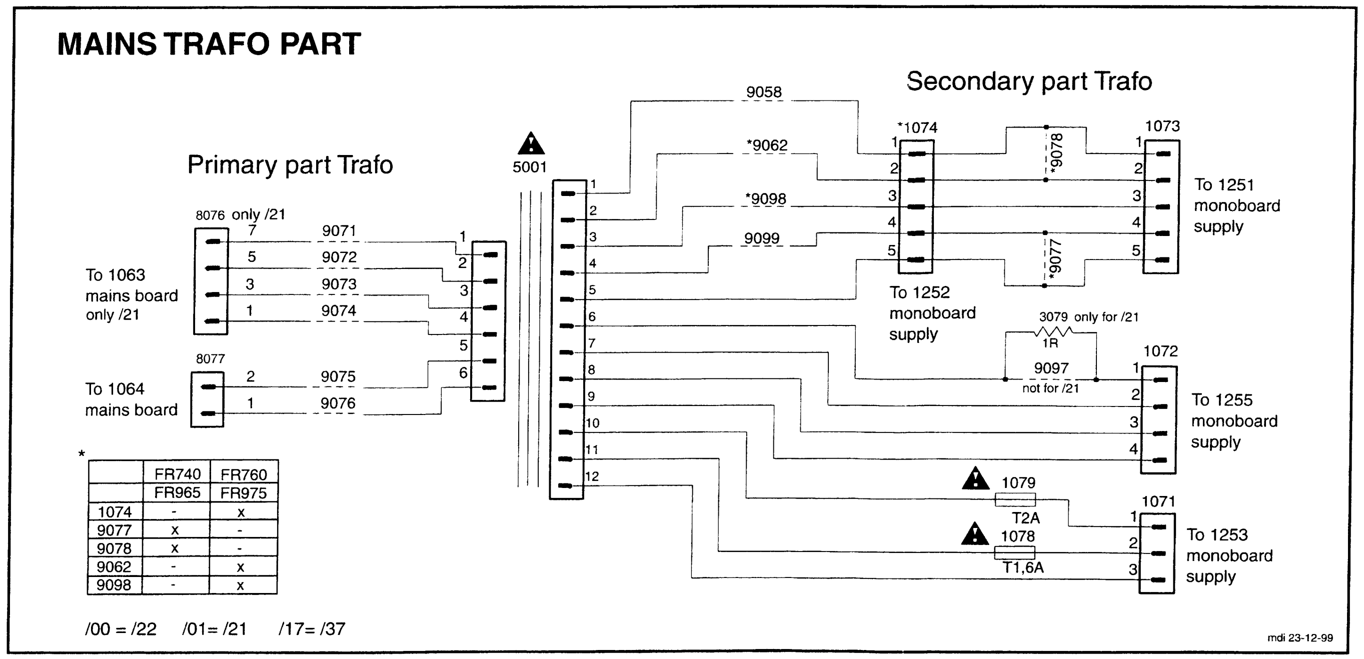
Voltages measured at nominal mains voltage and low output signal

mdi 23-12-99

3104 217 06610/06630/06650/06660/06670/06680/06690

0051	D9
1051	B1
1052	D1
1053	C1
1054	D1
1055	B5
1056	A2
1057	D9
1061	A1
1062	A3
1063	B6
1064	C6
1065	B6
1066	C6
1067	B2
1068	D4
1069	D6
2051	E7
2052	E7
2053	F7
2054	F7
2055	B2
3051	F4
3052	C6
3053	C6
3054	E8
3055	E8
3056	F6
3057	C9
3058	B8
3059	E6
3061	E6
5051	A2
5052	D5
6051	D6
6052	E7
6053	E6
6055	E7
6056	E7
6057	B9
6058	B9
6059	E9
6060	F9
6061	F8
6062	D6
6063	B9
6064	C9
6065	F6
6066	D6
6067	E7
7051	E8
7052	F8
7053	B9
9051	A2
9052	A2
9053	A2
9054	B2
9055	A4
9056	A6
9057	B5
9059	B4
9060	D4
9061	D8
9063	C6
9064	A5
9065	B1
9066	B1
9092	E2
9093	E2
9094	F2
9095	F2
9096	D6

MAINS TRAFO PART


Primary part Trafo
Secondary part Trafo
To 1063
mains board
only /21
8076 only /21
7 5 3 1
9071
9072
9073
9074
To 1064
mains board
8077
2 1
9075
9076
5001
1 2 3 4 5 6 7 8 9 10 11 12
9058
*9062
*9098
9099
*1074
To 1252
monoboard
supply
*9078
*9077
1073
To 1251
monoboard
supply
3079 only for /21
1R
9097
not for /21
1072
To 1255
monoboard
supply
1079
T2A
1078
T1,6A
1071
To 1253
monoboard
supply

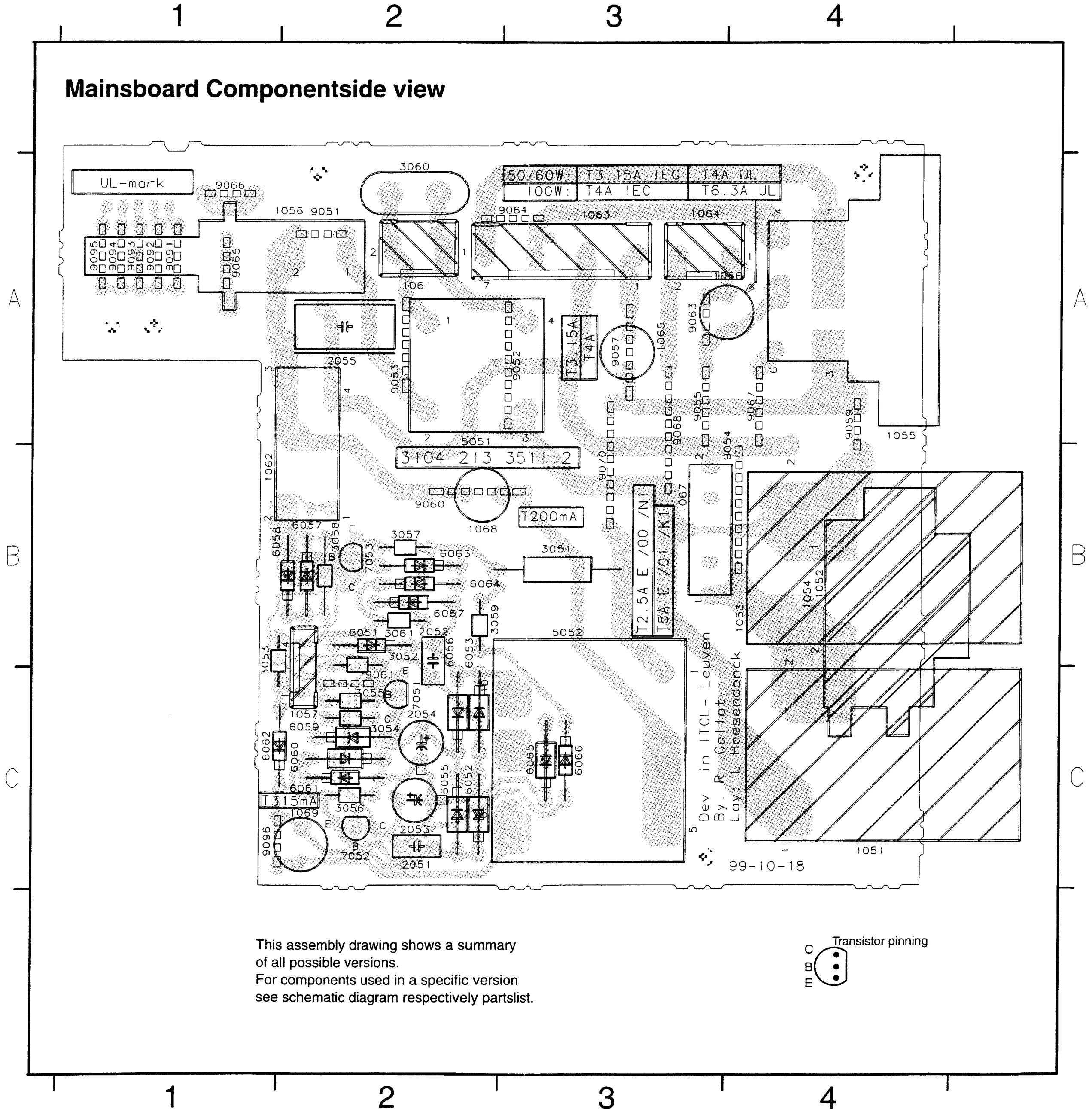
*

	FR740	FR760
	FR965	FR975
1074	-	x
9077	x	-
9078	x	-
9062	-	x
9098	-	x

/00 = /22 /01= /21 /17= /37

mdi 23-12-99

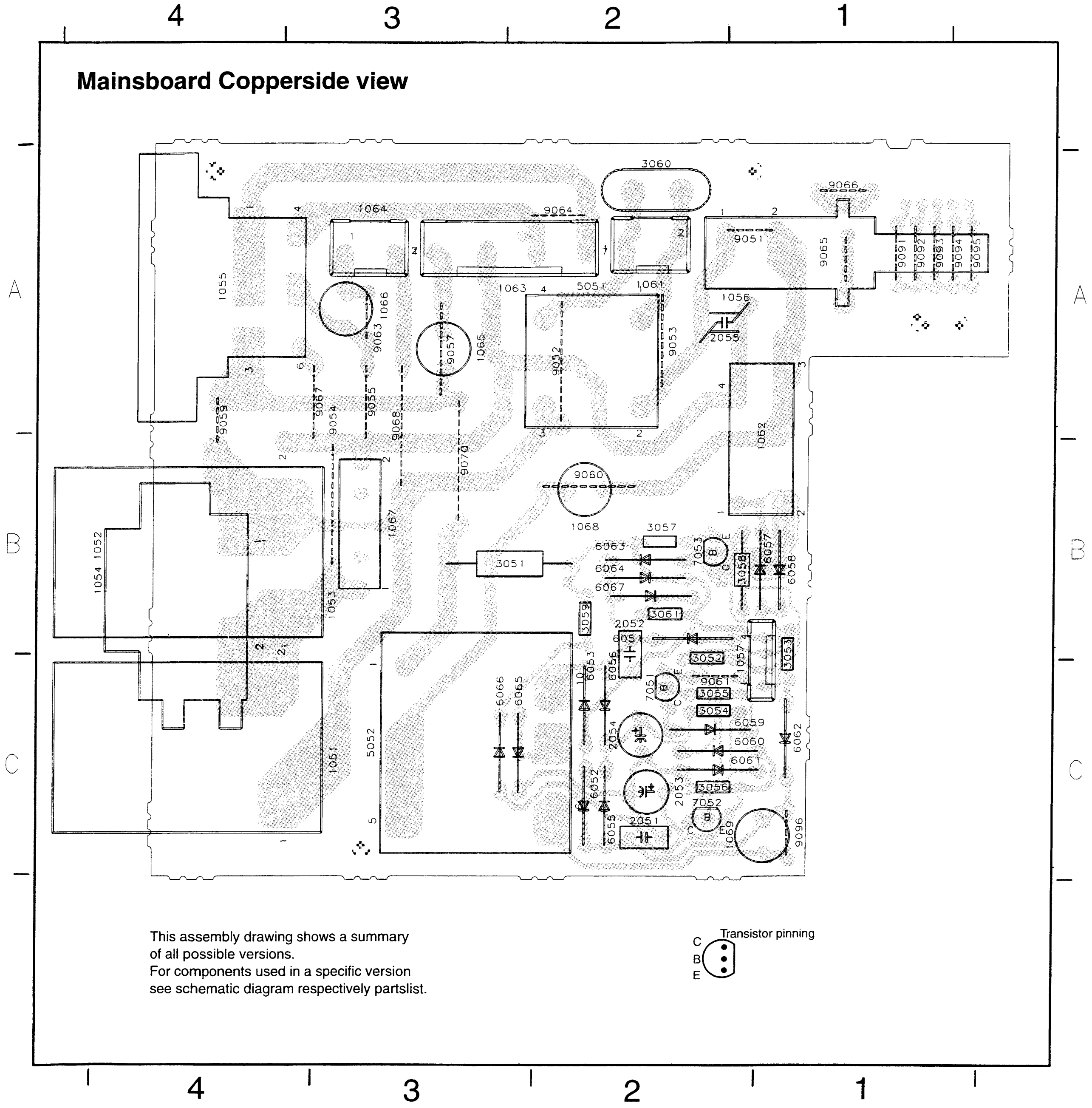
MAINS BOARD - COMPONENTSIDE VIEW & COPPERSIDE VIEW


1
2
3
4
A
B
C
UL-mark
50/60W: T3.15A IEC T4A UL
100W: T4A IEC T6.3A UL
3104 213 3511.2
T3.15A
T4A
T200mA
T2.5A E /00 /N1
T5A E /01 /K1
T315mA
Dev in ITCL- Leuven
By: R. Callot
Lay: L. Hoesendonck
99-10-18
Transistor pinning
C
B
E

Mainsboard Componentside view

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

1051	C4
1052	B4
1053	B4
1054	B4
1055	A4
1056	A2
1057	C2
1061	A2
1062	A2
1063	A3
1064	A3
1065	A3
1066	A3
1067	B3
1068	B2
1069	C2
2051	C2
2052	B2
2053	C2
2054	C2
2055	A2
3051	B3
3052	B2
3053	B2
3054	C2
3055	C2
3056	C2
3057	B2
3058	B2
3059	B2
3060	A2
3061	B2
5051	A2
5052	C3
6051	B2
6052	C2
6053	C2
6055	C2
6056	C2
6057	B2
6058	B2
6059	C2
6060	C2
6061	C2
6062	C2
6063	B2
6064	B2
6065	C3
6066	C3
6067	B2
7051	C2
7052	C2
7053	B2
9051	A2
9052	A3
9053	A2
9054	B4
9055	A3
9057	A3
9059	A4
9060	B2
9061	C2
9063	A3
9064	A3
9065	A1
9066	A1
9067	A4
9068	A3
9070	B3
9091	A1
9092	A1
9093	A1
9094	A1
9095	A1
9096	C2


4
3
2
1
A
B
C
Transistor pinning
C
B
E

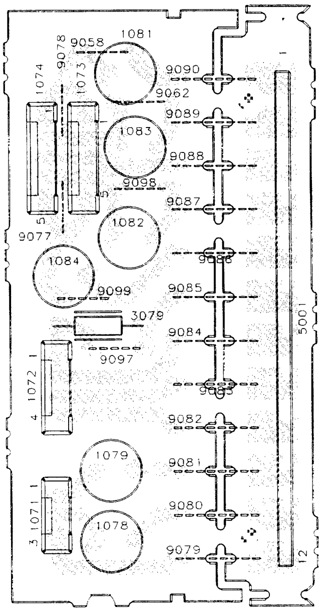
Mainsboard Copperside view

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

TRAFO BOARD

Copperside view

Interconnection Board
Transformer secondary


1081
9078
9058
1074
1073
9090
9062
9089
1083
9088
9098
9087
1082
9077
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9099
9086
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9097
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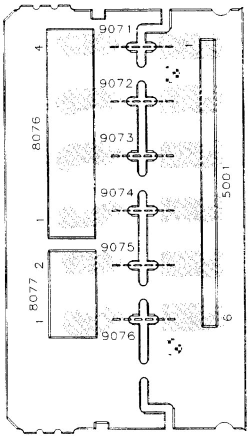
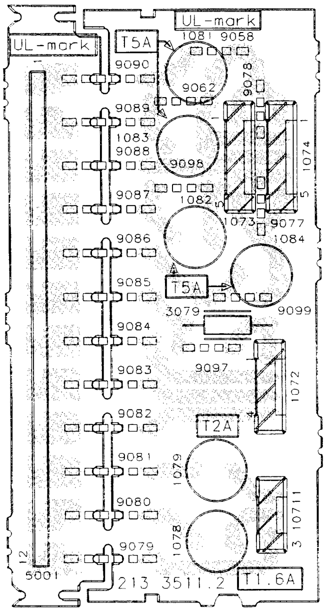
9083
9082
1079
9081
9080
1071
1078
9079
5001
12

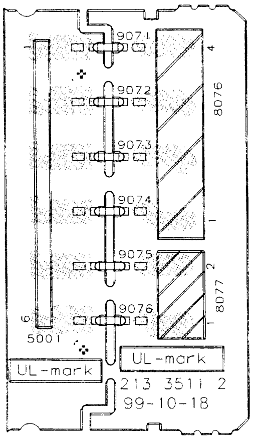

9071
9072
9073
9074
9075
9076
8076
8077
5001

Interconnection Board
Transformer primary

Componentside view

Interconnection Board
Transformer secondary


UL-mark
T5A
1081 9058
UL-mark
9090
9062
9078
9089
1083
9088
9098
1074
9087
1082
1073
9077
1084
9086
9085
T5A
3079
9099
9084
9097
1072
9083
9082
T2A
9081
1079
9080
1071
1078
9079
5001
213 3511.2
T1.6A


9071
9072
9073
9074
9075
9076
8076
8077
5001
UL-mark
UL-mark
213 3511 2
99-10-18

Interconnection Board
Transformer primary

ELECTRICAL PARTSLIST - MAINS BOARD

MISCELLANEOUS

1051	⚠	482226731994	MAINS OUTLET
1056	⚠	482227613224	MAINS SWITCH
1061	⚠	482226520723	MAINS INLET
1062		482228010391	RELAY
1064	⚠	482226520723	B2P3-VH
1067	⚠	242208610912	FUSE 2,5A
1069	⚠	482207153151	FUSE 315MA
1078	⚠	482207151602	FUSE 1.6A
1079	⚠	482207152002	FUSE 2A

CAPACITORS

2051		482212143526	47NF 5% 250V
2052		482212143526	47NF 5% 250V
2055	⚠	482212614084	4,7NF 20% 250V

RESISTORS

3052		482205011002	1K00 1% 0,4W
3053		482205011002	1K00 1% 0,4W
3057		482205210129	12R00 5% 0,33W
3058		482211652256	2K2 5% 0,5W
3059		482205021003	10K00 1% 0,6W
3061		482205021003	10K00 1% 0,6W

TRAFO

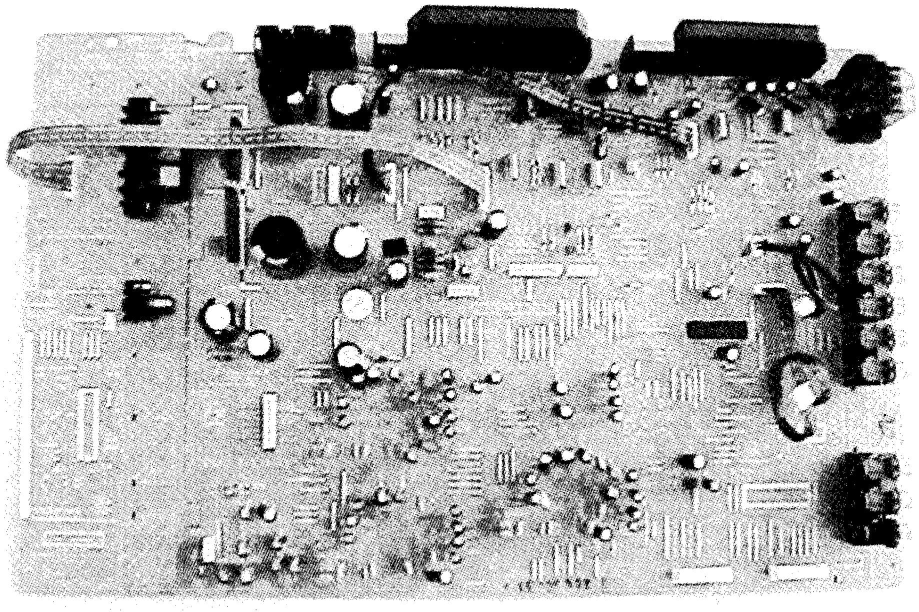
5052	⚠	482214611143	STBY TRAFO

DIODES

6051		482213030621	1N4148
6052		482213031878	1N4003G
6053		482213031878	1N4003G
6055		482213031878	1N4003G
6056		482213031878	1N4003G
6057		482213030621	1N4148
6058		482213030621	1N4148
6062		482213030621	1N4148
6063		482213030621	1N4148
6064		482213030621	1N4148
6066		482213030621	1N4148
6067		482213030621	1N4148

TRANSISTORS

7053		482213040981	BC337-25



MONO BOARD

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MEASUREMENT REFERENCES TO LAYOUT ON PAGE 10-8

IC7643

IC 7643 Pin	Can be measure via Test point on component side monoboard	Funtionality
17	TP 47	DPL Surround L in
18	TP 48	6 CH Surround L in
9	TP 50	DPL Surround R in
10	TP 51	6 CH Surround R in
3	TP 52	4,7V
2	TP 53	4,7V
4	TP 54	4,7V
26	TP 55	4,7V
27	TP 56	4,7V
33	TP 57	Surround Right out
36/40/43	TP 58	Ground
41/42	TP 59	9,4V
39	TP 60	4,7V
19	TP 61	8,7V
34	TP 63	Surround Left out
25	TP 64	4,7V
24	TP 65	4,7V
12	TP 66	4,7V
20	TP 67	4,7V
21	TP 68	4,7V

IC7504

IC 7504 Pin	Can be measure via Test point on component side monoboard	Funtionality
5	TP 77	Rec - in Right
4	TP 78	-13,5V
7	TP 79	Rec - out Right
8	TP 80	12V
3	TP 81	Rec - in Left
1	TP 82	Rec - out Left

MEASUREMENT REFERENCES TO LAYOUT ON PAGE 10-8

IC7641

IC 7641 Pin	Can be measure via Test point on component side monoboard	Funtionality
16	TP 1	Left in
17	TP 2	Dpl Left in
18	TP 3	Front Left in
8	TP 4	Right in
9	TP 5	Dpl Right in
10	TP 6	Front Right in
3	TP 7	4,7V
2	TP 8	4,7V
4	TP 9	4,7V
26	TP 10	4,7V
27	TP 11	4,7V
33	TP 12	Right out
36/40/43	TP 13	Ground
41/42	TP 14	9,4V
39	TP 15	4,7V
19	TP 16	8,7V
34	TP 18	Left out
25	TP 19	4,7V
24	TP 20	4,7V
12	TP 21	4,7V
20	TP 22	4,7V
21	TP 23	4,7V

IC7642

IC 7642 Pin	Can be measure via Test point on component side monoboard	Funtionality
16	TP 24	not used
17	TP 25	Dpl Center in
18	TP 26	6 CH Center in
8	TP 27	Subwoofer in
9	TP 28	Subwoofer in
10	TP 29	6 CH Subwoofer in
3	TP 30	4,7V
2	TP 31	4,7V
4	TP 32	4,7V
26	TP 33	4,7V
27	TP 34	4,7V
33	TP 35	Subwoofer L out
36/43	TP 36	Ground
40/41/42	TP 37	9,4V
39	TP 38	4,7V
19	TP 39	8,7V
34	TP 40	Center out
25	TP 41	4,7V
24	TP 42	4,7V
12	TP 43	4,7V
20	TP 44	4,7V
21	TP 45	4,7V

IC7601

IC 7601 Pin	Can be measure via Test point on component side monoboard	Funtionality
5	TP 69	Headphone Amp L in
4	TP 70	-13,5V
8	TP 71	12V
3	TP 72	Headphone Amp R in

Tr 7622

Tr7622	Can be measure via Test point on component side monoboard	Funtionality
B	TP 99	-0,5V
C	TP 100	Ground
E	TP 101	Headphone Amp R out

IC7503

IC 7503 Pin	Can be measure via Test point on component side monoboard	Funtionality
5	TP 73	Right in
4	TP 74	-12V
8	TP 75	11V
3	TP 76	Left in

Tr 7653

Tr7653	Can be measure via Test point on component side monoboard	Funtionality
B	TP 86	-1,8V
E	TP 88	0V

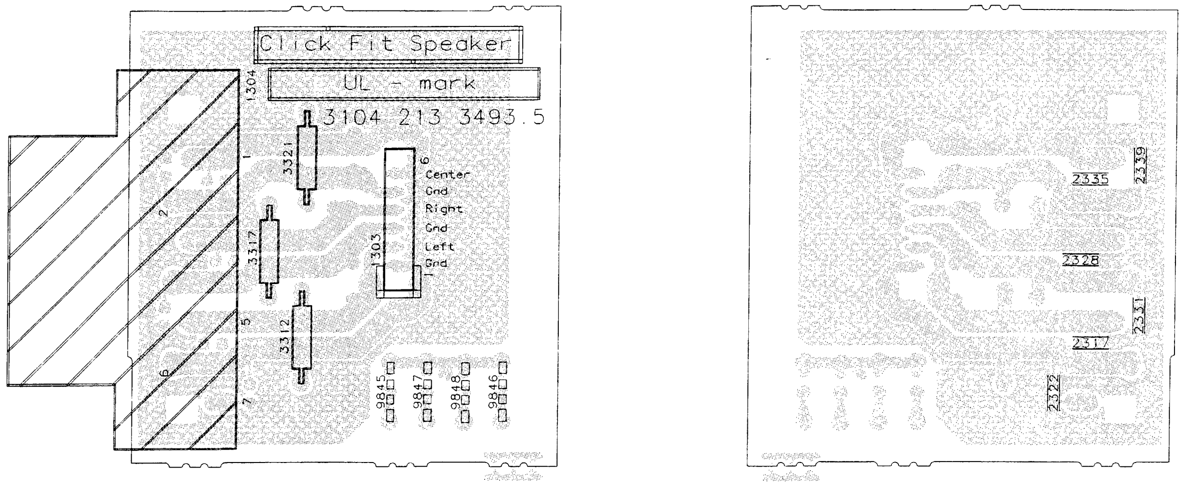
Tr 7621

Tr7621	Can be measure via Test point on component side monoboard	Funtionality
B	TP 96	-1,5V
C	TP 97	Ground
E	TP 98	Headphone Amp L out

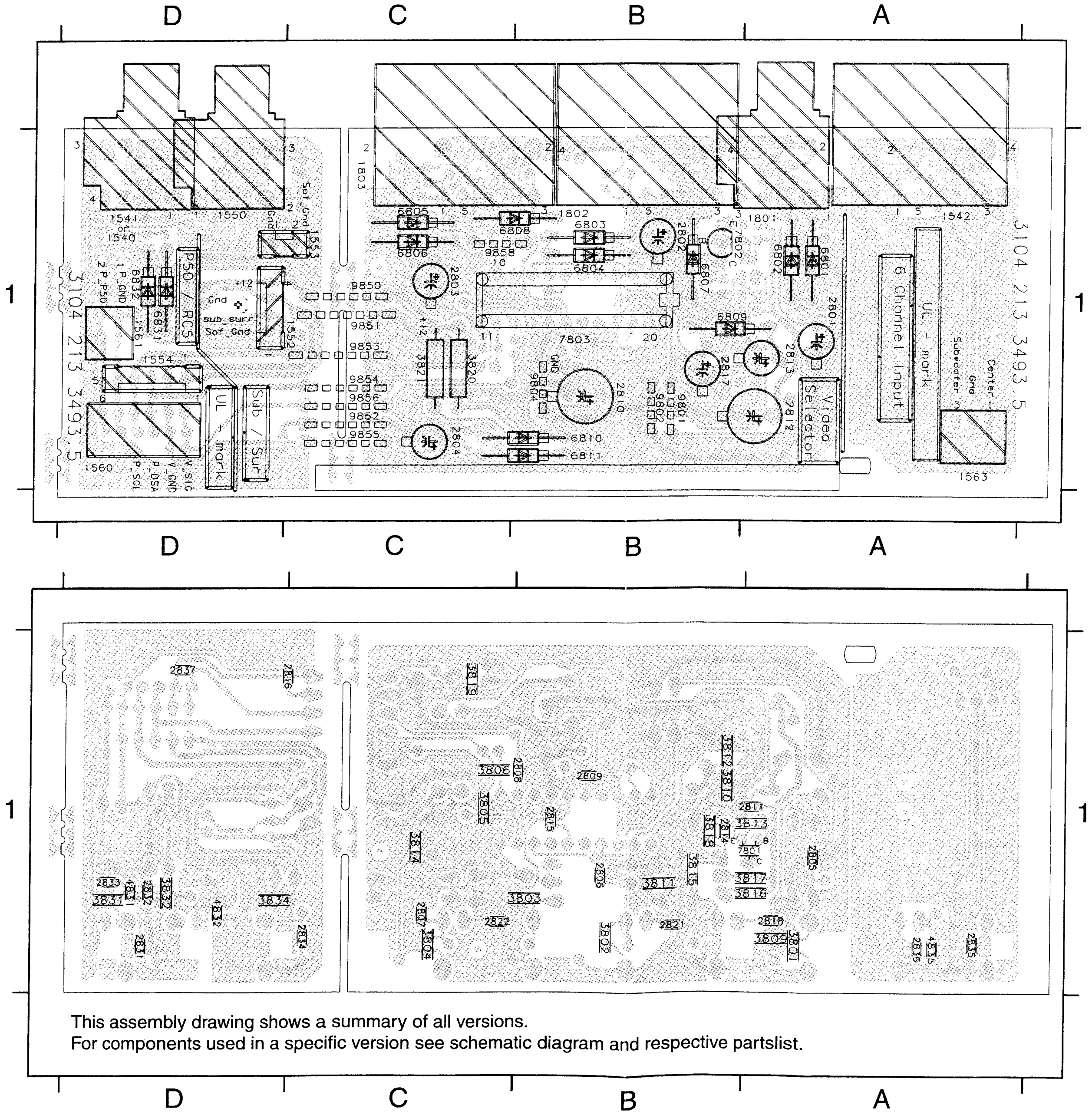
Tr 7658

Tr7658	Can be measure via Test point on component side monoboard	Funtionality
B	TP 83	5V
C	TP 84	-13V
E	TP 85	5V

CLICK FIT SPEAKER BOARD - COMPONENT VIEW & COPPER SIDE VIEW


Click Fit Speaker
UL - mark
3104 213 3493.5
3321
3317
3312
1303
1304
Center
Gnd
Right
Gnd
Left
Gnd
9845
9847
9848
9846
2335
2339
2328
2331
2317
2322

P50/RC5 BOARD - COMPONENT VIEW & COPPER SIDE VIEW

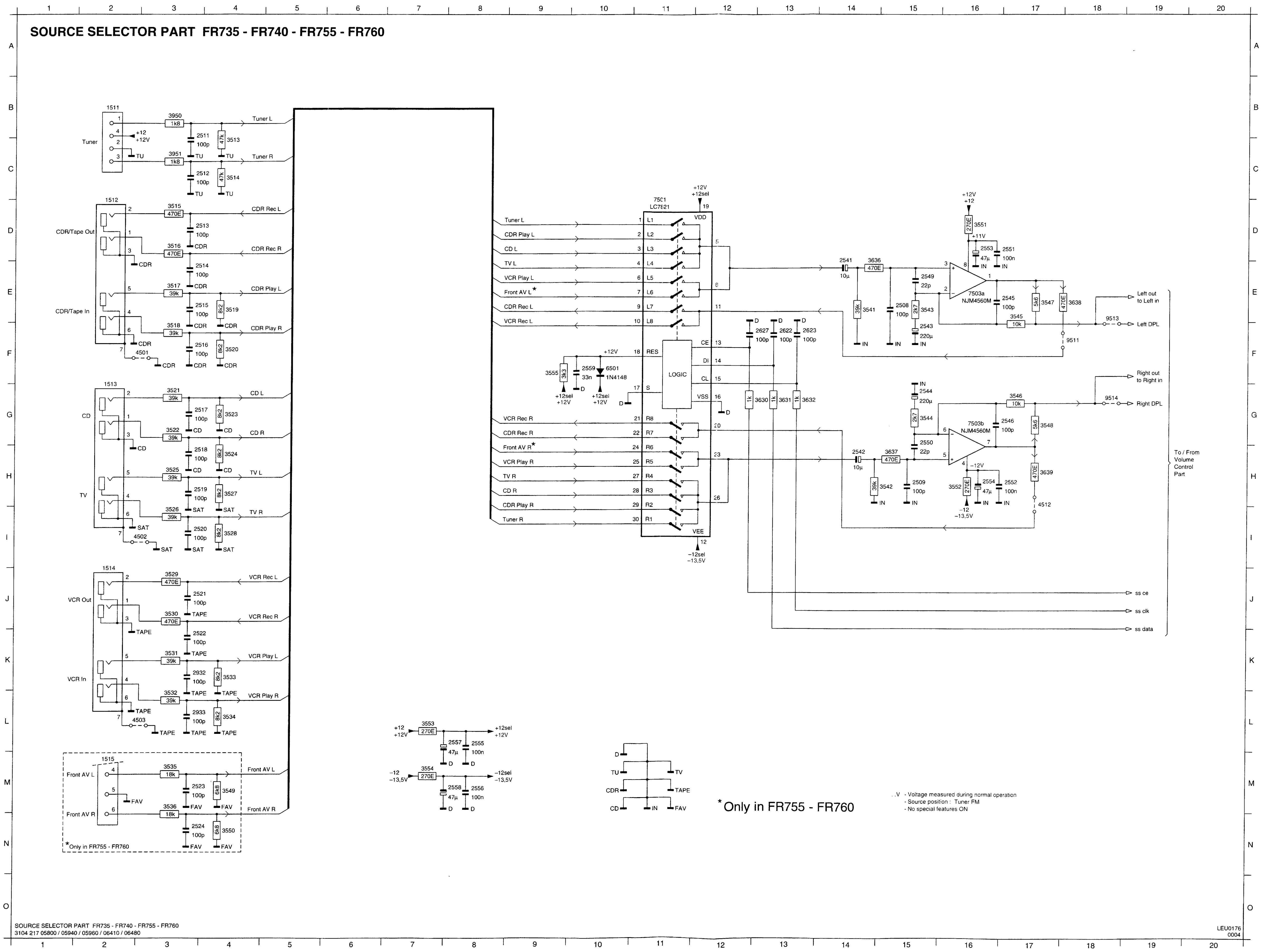

D
C
B
A
1
3104 213 3493.5
P50 / RC5
Sub / Surr
UL - mark
6 Channel Input
Video Selector
1540
1541
1542
1550
1553
1554
1560
1563
1801
1802
1803
7803
9850
9851
9853
9854

This assembly drawing shows a summary of all versions.
For components used in a specific version see schematic diagram and respective partslist.

1540	D1
1541	D1
1542	A1
1550	D1
1552	D1
1553	D1
1554	D1
1560	D1
1561	D1
1563	A1
1801	A1
1802	B1
1803	C1
2801	A1
2802	B1
2803	C1
2804	C1
2810	B1
2812	A1
2813	A1
2817	B1
3820	C1
3821	C1
6801	A1
6802	A1
6803	B1
6804	B1
6805	C1
6806	C1
6807	B1
6808	B1
6809	B1
6810	B1
6811	B1
6831	D1
6832	D1
7802	B1
7803	B1
9801	B1
9802	B1
9804	B1
9850	C1
9851	C1
9852	C1
9853	C1
9854	C1
9855	C1
9856	C1
9858	C1

2805	A1
2806	B1
2807	C1
2808	B1
2809	B1
2811	A1
2814	B1
2815	B1
2816	C1
2818	A1
2821	B1
2822	C1
2831	D1
2832	D1
2833	D1
2834	C1
2835	A1
2836	A1
2837	D1
3801	A1
3802	B1
3803	B1
3804	C1
3805	C1
3806	C1
3809	A1
3810	B1
3811	B1
3812	B1
3813	A1
3814	C1
3815	B1
3816	A1
3817	A1
3818	B1
3819	C1
3831	D1
3832	D1
3834	D1
4831	D1
4832	D1
4835	A1
7801	A1

SOURCE SELECTOR PART FR735 - FR740 - FR755 - FR760


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
Tuner
1511
3950 1k8
3951 1k8
2511 100p
2512 100p
47k 3513
47k 3514
+12 +12V
TU
Tuner L
Tuner R
1512
CDR/Tape Out
CDR/Tape In
3515 470E
3516 470E
3517 39k
3518 39k
2513 100p
2514 100p
2515 100p
2516 100p
8k2 3519
8k2 3520
4501
CDR
CDR Rec L
CDR Rec R
CDR Play L
CDR Play R
1513
CD
TV
3521 39k
3522 39k
3525 39k
3526 39k
2517 100p
2518 100p
2519 100p
2520 100p
8k2 3523
8k2 3524
8k2 3527
8k2 3528
4502
SAT
CD L
CD R
TV L
TV R
1514
VCR Out
VCR In
3529 470E
3530 470E
3531 39k
3532 39k
2521 100p
2522 100p
2932 100p
2933 100p
8k2 3533
8k2 3534
4503
TAPE
VCR Rec L
VCR Rec R
VCR Play L
VCR Play R
1515
Front AV L
Front AV R
3535 18k
3536 18k
2523 100p
2524 100p
6k8 3549
6k8 3550
FAV
*Only in FR755 - FR760
Tuner L
CDR Play L
CD L
TV L
VCR Play L
Front AV L*
CDR Rec L
VCR Rec L
VCR Rec R
CDR Rec R
Front AV R*
VCR Play R
TV R
CD R
CDR Play R
Tuner R
7501 LC7821
+12V +12sel
VDD
L1 L2 L3 L4 L5 L6 L7 L8
R8 R7 R6 R5 R4 R3 R2 R1
RES
S
LOGIC
CE
DI
CL
VSS
VEE
-12sel -13,5V
3555 3k3
2559 33n
6501 1N4148
+12sel +12V
D
2541 10µ
3636 470E
3541 39k
2508 100p
2549 22p
2k7 3543
2543 220µ
270E 3551
+12V +12
+11V
2553 47µ
2551 100n
7503a NJM4560M
2545 100p
5k6 3547
470E 3638
3545 10k
9513
9511
Left out to Left in
Left DPL
2627 100p
2622 100p
2623 100p
1k 3630
1k 3631
1k 3632
IN
2544 220µ
2k7 3544
2550 22p
3546 10k
2546 100p
7503b NJM4560M
5k6 3548
470E 3639
4512
9514
Right out to Right in
Right DPL
2542 10µ
3637 470E
3542 39k
2509 100p
3552 270E
2554 47µ
2552 100n
-12V
-12 -13,5V
To / From Volume Control Part
ss ce
ss clk
ss data
+12 +12V
3553 270E
2557 47µ
2555 100n
+12sel +12V
-12 -13,5V
3554 270E
2558 47µ
2556 100n
-12sel -13,5V
D
TU
TV
CDR
TAPE
CD
IN
FAV

*Only in FR755 - FR760

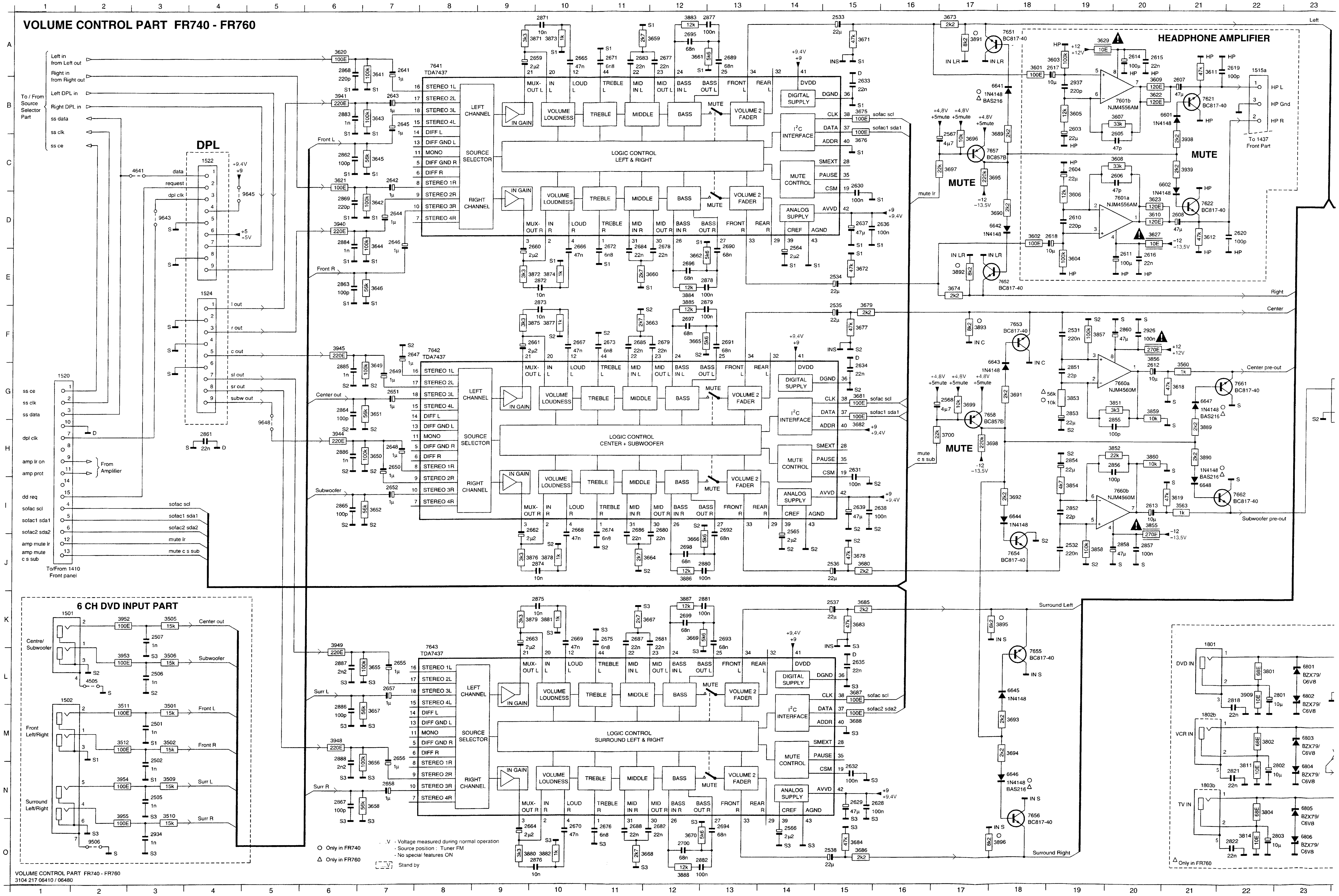
..V - Voltage measured during normal operation
- Source position : Tuner FM
- No special features ON

SOURCE SELECTOR PART FR735 - FR740 - FR755 - FR760
3104 217 05800 / 05940 / 05960 / 06410 / 06480

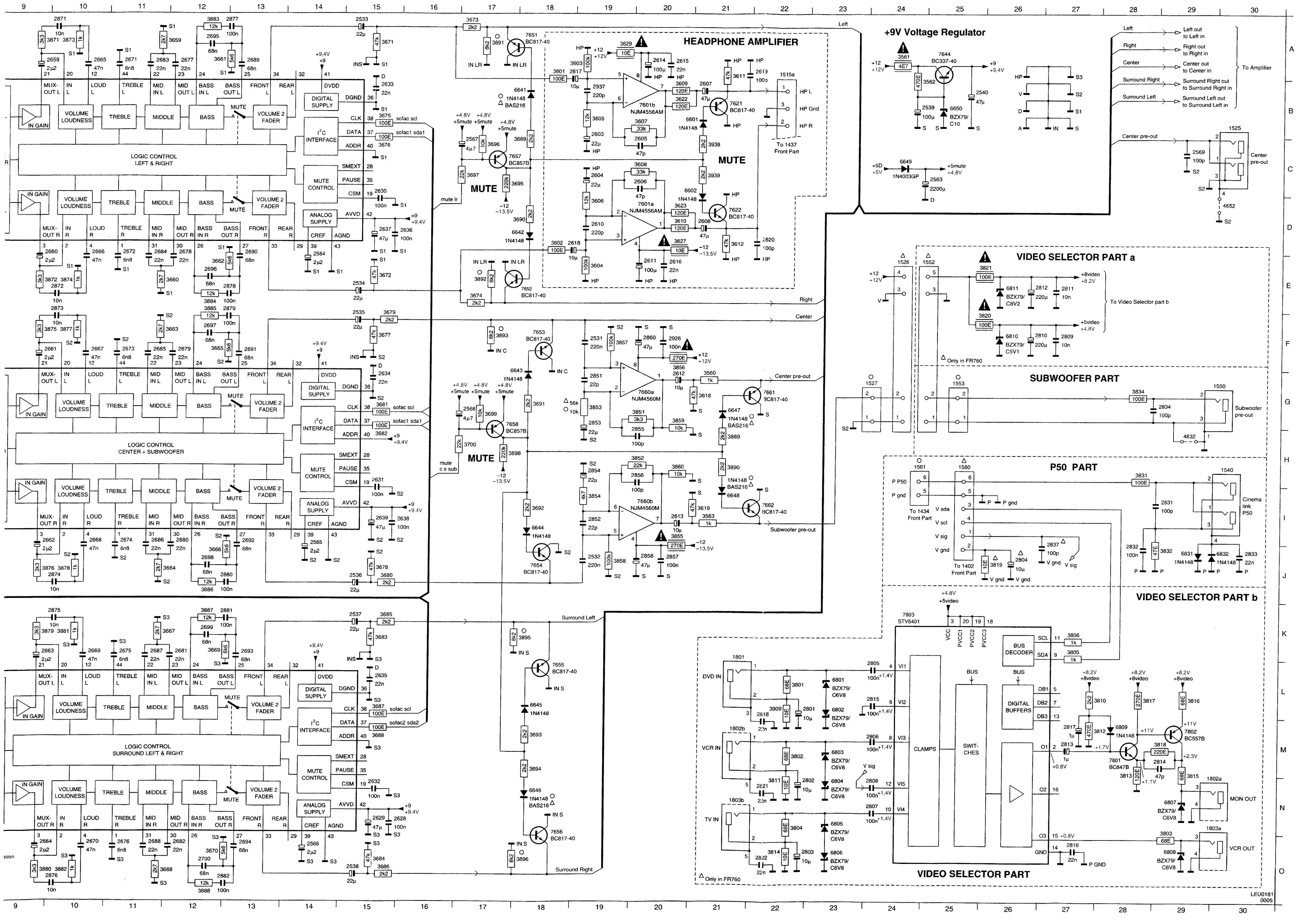
LEU0176
0004

1511	B2
1512	D2
1513	G2
1514	J2
1515	M2
2508	E15
2509	H15
2511	B3
2512	C3
2513	D3
2514	E3
2515	E3
2516	F3
2517	G3
2518	H3
2519	H3
2520	I3
2521	J3
2522	K3
2523	M3
2524	N3
2541	E14
2542	H14
2543	F15
2544	G15
2545	E17
2546	G17
2549	E15
2550	G15
2551	D17
2552	H17
2553	D16
2554	H16
2555	L8
2556	M8
2557	L8
2558	M8
2559	F10
2622	F13
2623	F13
2627	F13
2932	K3
2933	L3
3513	C4
3514	C4
3515	D3
3516	D3
3517	E3
3518	F3
3519	E4
3520	F4
3521	G3
3522	G3
3523	G4
3524	H4
3525	H3
3526	I3
3527	H4
3528	I4
3529	J3
3530	J3
3531	K3
3532	L3
3533	K4
3534	L4
3535	M3
3536	M3
3541	E14
3542	H15
3543	E15
3544	G15
3545	E17
3546	G17
3547	E17
3548	G17
3549	M4
3550	N4
3551	D16
3552	H16
3553	L7
3554	M7
3555	F9
3630	G13
3631	G13
3632	G13
3636	E14
3637	H15
3638	E18
3639	H17
3950	B3
3951	C3
4501	F2
4502	I2
4503	L2
4512	H17
6501	F10
7501	D11
7503a	E16
7503b	G16
9511	F18
9513	E18
9514	G18

VOLUME CONTROL PART FR740 - FR760


HEADPHONE AMPLIFIER
DPL
6 CH DVD INPUT PART
To / From Source Selector Part
Left in from Left out
Right in from Right out
Left DPL in
Right DPL in
ss data
ss clk
ss ce
To/From 1410 Front panel
From Amplifier
7641 TDA7437
7642 TDA7437
7643 TDA7437
LEFT CHANNEL
RIGHT CHANNEL
SOURCE SELECTOR
IN GAIN
VOLUME LOUDNESS
TREBLE
MIDDLE
BASS
MUTE
VOLUME 2 FADER
DIGITAL SUPPLY
I²C INTERFACE
MUTE CONTROL
ANALOG SUPPLY
LOGIC CONTROL LEFT & RIGHT
LOGIC CONTROL CENTER + SUBWOOFER
LOGIC CONTROL SURROUND LEFT & RIGHT
Front L
Front R
Center out
Subwoofer
Surr L
Surr R
Left
Right
Center
Center pre-out
Subwoofer pre-out
Surround Left
Surround Right
HP L
HP Gnd
HP R
To 1437 Front Part
MUTE
7601a NJM4556AM
7601b NJM4556AM
7660a NJM4560M
7660b NJM4560M
BC817-40
BC857B
1N4148
BAS216
Centre/ Subwoofer
Front Left/Right
Surround Left/Right
DVD IN
VCR IN
TV IN
BZX79/ C6V8
○ Only in FR740
△ Only in FR760
V - Voltage measured during normal operation
- Source position : Tuner FM
- No special features ON
Stand by
Only in FR760

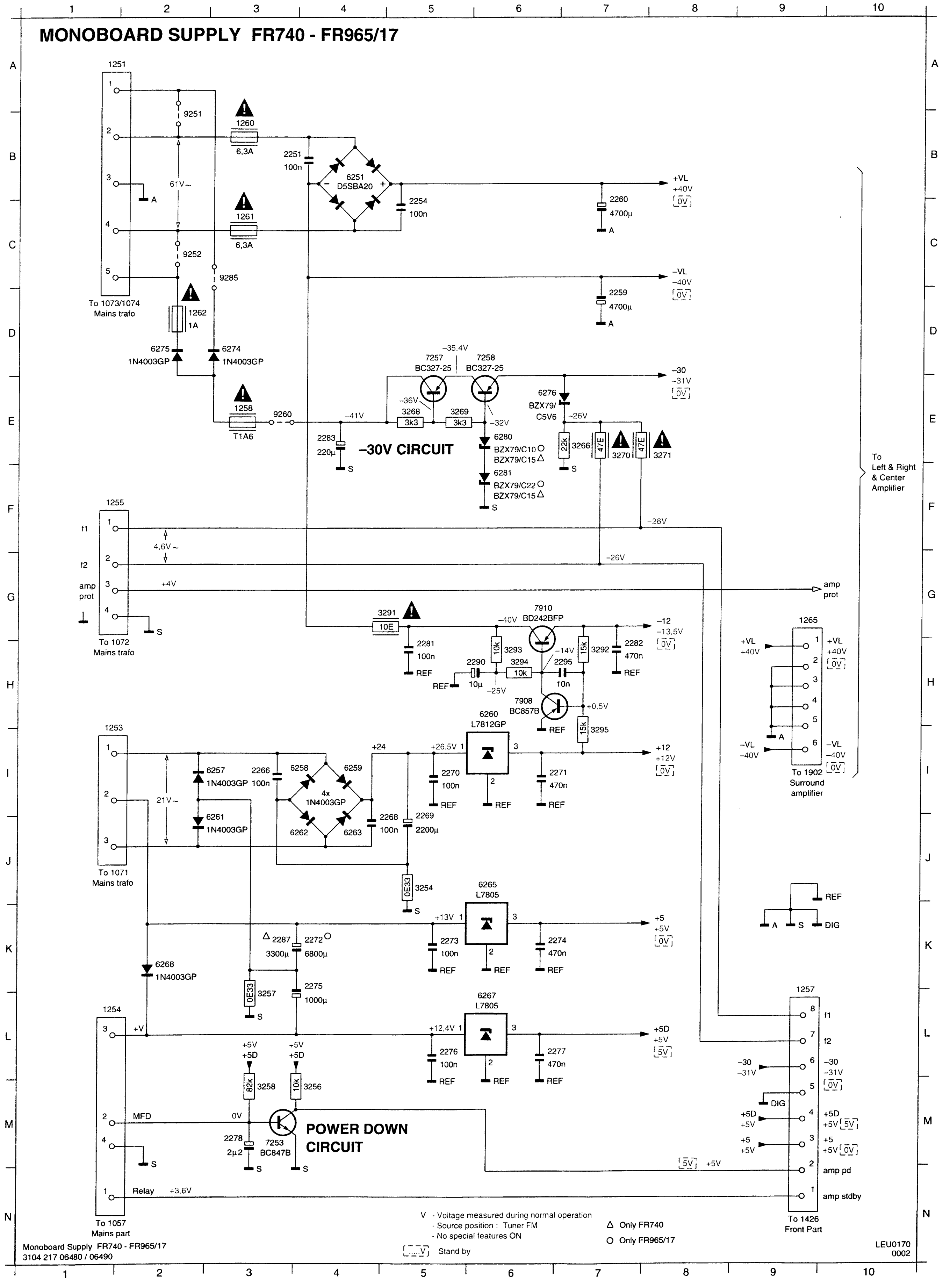
VOLUME CONTROL PART FR740 - FR760
3104 217 06410 / 06480


HEADPHONE AMPLIFIER
MUTE
+9V Voltage Regulator
VIDEO SELECTOR PART a
SUBWOOFER PART
P50 PART
VIDEO SELECTOR PART b
VIDEO SELECTOR PART
LOGIC CONTROL LEFT & RIGHT
LOGIC CONTROL CENTER + SUBWOOFER
LOGIC CONTROL SURROUND LEFT & RIGHT
IN GAIN
VOLUME LOUDNESS
TREBLE
MIDDLE
BASS
VOLUME 2 FADER
DIGITAL SUPPLY
I²C INTERFACE
MUTE CONTROL
ANALOG SUPPLY
NJM4556AM
NJM4560M
BC817-40
BC857B
BC337-40
BC847B
BC557B
1N4148
BAS216
BZX79/C6V8
1N4003GP
STV6401
CLAMPS
SWITCHES
DIGITAL BUFFERS
BUS DECODER
Left out to Left in
Right out to Right in
Center out to Center in
Surround Right out to Surround Right in
Surround Left out to Surround Left in
To Amplifier
Center pre-out
Subwoofer pre-out
Cinema link P50
To 1437 Front Part
To 1434 Front Part
To 1402 Front Part
To Video Selector part b
DVD IN
VCR IN
TV IN
MON OUT
VCR OUT
HP L
HP Gnd
HP R
Only in FR760
LEU0181 0005

1501	K1	2695	A12	3666	J12	6804	N23
1502	L1	2696	E12	3667	K11	6805	N23
1515a	A22	2697	F12	3668	O11	6806	O23
1520	G1	2698	J12	3669	K12	6807	N29
1522	C4	2699	K12	3670	O12	6808	O29
1524	E4	2700	O12	3671	A15	6809	M28
1525	B30	2801	L22	3672	E15	6810	F26
1526	E24	2802	N22	3673	A17	6811	E26
1527	G23	2803	O22	3674	E17	6831	J29
1540	H30	2804	J26	3675	B15	6832	J30
1550	G29	2805	L24	3676	C15	7601a	D20
1552	E24	2806	M24	3677	F15	7601b	B20
1553	G25	2807	N24	3678	J15	7621	B21
1560	H25	2808	N24	3679	F15	7622	D21
1561	H24	2809	F27	3680	J15	7641	A8
1801	K21	2810	F26	3681	G15	7642	F8
1802a	N29	2811	E27	3682	H15	7643	L8
1802b	M21	2812	E26	3683	K15	7644	A25
1803a	N29	2813	M27	3684	O15	7651	A17
1803b	N21	2814	M29	3685	K15	7652	E18
2501	M3	2815	L24	3686	O15	7653	F18
2502	N3	2816	O27	3687	L15	7654	J18
2505	N3	2817	M27	3688	M15	7655	L18
2506	L3	2818	L22	3689	C17	7656	O18
2507	K3	2821	N22	3690	D17	7657	C17
2531	F19	2822	O22	3691	G18	7658	G17
2532	J19	2831	I29	3692	I18	7660a	G20
2533	A15	2832	J28	3693	M18	7660b	I20
2534	E15	2833	J30	3694	M18	7661	G22
2535	F15	2834	G29	3695	C17	7662	I22
2536	J15	2837	J27	3696	C17	7801	M28
2537	K15	2851	G19	3697	C17	7802	M29
2538	O15	2852	I19	3698	H17	7803	K24
2539	B24	2853	G19	3699	G17	9506	O2
2540	B25	2854	H19	3700	H17	9643	D3
2563	C25	2855	H19	3801	L22	9645	D4
2564	E14	2856	H19	3802	M22	9648	H5
2565	J14	2857	J20	3803	N29		
2566	O14	2858	J20	3804	N22		
2567	C17	2860	F20	3805	K27		
2568	G17	2861	H4	3806	K27		
2569	C29	2862	C6	3810	L27		
2603	B19	2863	E6	3811	N22		
2604	C19	2864	G6	3812	M27		
2605	C19	2865	I6	3813	N28		
2606	C19	2867	N6	3814	O22		
2607	B21	2868	A6	3815	N29		
2608	D21	2869	D6	3816	L29		
2610	D19	2871	A10	3817	L28		
2611	E20	2872	E10	3818	M29		
2612	G20	2873	E10	3819	J26		
2613	I20	2874	J10	3820	F25		
2614	A20	2875	K10	3821	E25		
2615	A20	2876	O10	3831	H28		
2616	E20	2877	A12	3832	J29		
2617	A18	2878	E12	3834	G28		
2618	D18	2879	E12	3851	G19		
2619	A22	2880	J12	3852	H19		
2620	D22	2881	K12	3853	G19		
2628	N15	2882	O12	3854	I19		
2629	N15	2883	B6	3855	I20		
2630	C15	2884	D6	3856	F20		
2631	H15	2885	G6	3857	F19		
2632	N15	2886	H6	3858	J19		
2633	B15	2886	M6	3859	G20		
2634	G15	2887	L6	3860	H20		
2635	L15	2888	M6	3871	A9		
2636	D15	2926	F20	3872	E9		
2637	D15	2934	O3	3873	A10		
2638	I15	2937	B19	3874	E10		
2639	I15	3501	M3	3875	F9		
2641	A7	3502	M3	3876	J9		
2642	C7	3505	K3	3877	F10		
2643	B7	3506	L3	3878	J10		
2644	D7	3509	N3	3879	K9		
2645	B7	3510	N3	3880	O9		
2646	D7	3511	M2	3881	K10		
2647	F7	3512	M2	3882	O10		
2648	H7	3560	G21	3883	A12		
2649	G7	3561	A24	3884	E12		
2650	H7	3562	B24	3885	E12		
2651	G7	3563	I21	3886	J12		
2652	I7	3601	A18	3887	K12		
2655	L7	3602	D18	3888	O12		
2656	M7	3603	A18	3889	H21		
2657	L7	3604	E19	3890	H21		
2658	N7	3605	B19	3891	A17		
2659	A9	3606	D19	3892	E17		
2660	E9	3607	B19	3893	F17		
2661	F9	3608	C19	3895	K18		
2662	I9	3609	B20	3896	O18		
2663	K9	3610	D20	3909	L22		
2664	O9	3611	A21	3938	C21		
2665	A10	3612	D21	3939	C21		
2666	E10	3618	G21	3940	D6		
2667	F10	3619	I21	3941	B6		
2668	I10	3620	A6	3944	H6		
2669	K10	3621	C6	3945	F6		
2670	O10	3622	B20	3948	M6		
2671	A11	3623	D20	3949	K6		
2672	E11	3627	D20	3952	K2		
2673	F11	3629	A19	3953	L2		
2674	I11	3641	B7	3954	N2		
2675	K11	3642	D7	3955	N2		
2676	O11	3643	B7	4505	L2		
2677	A12	3644	E7	4641	C3		
2678	E12	3645	C7	4652	D30		
2679	F12	3646	E7	4832	H29		
2680	I12	3649	G7	6601	B20		
2681	K12	3650	H7	6602	C20		
2682	O12	3651	G7	6641	B17		
2683	A11	3652	I7	6642	D17		
2684	E11	3655	L7	6643	G17		
2685	F11	3656	N7	6644	I18		
2686	I11	3657	M7	6645	L18		
2687	K11	3658	N7	6646	N18		
2688	O11	3659	A11	6647	G21		
2689	A13	3660	E11	6648	I21		
2690	E13	3661	A12	6649	C24		
2691	F13	3662	E12	6650	B25		
2692	I13	3663	F11	6801	L23		
2693	K13	3664	J11	6802	L23		
2694	O13	3665	F12	6803	M23		

1251	A1	1260	B3	2259	D7	2271	I6	2277	L6	2290	H5	3266	E7	3292	H7	6258	I3	6265	J6	6280	E6	7910	G6
1253	I1	1261	C3	2260	C7	2272	K4	2278	M3	2295	H6	3268	E5	3293	H6	6259	I4	6267	L6	6281	F6	9251	B2
1254	L1	1262	D2	2266	I3	2273	K5	2281	H5	3254	J5	3269	E5	3294	H6	6260	H6	6268	K2	7253	M3	9252	C2
1255	F1	1265	G9	2268	J4	2274	K6	2282	H7	3256	M4	3270	E7	3295	I7	6261	J3	6274	D3	7257	D5	9260	E3
1257	L9	2251	B3	2269	J5	2275	K4	2283	E4	3257	L3	3271	E8	6251	B4	6262	J3	6275	D2	7258	D6	9285	C3
1258	E3	2254	C5	2270	I5	2276	L5	2287	K3	3258	M3	3291	G4	6257	I3	6263	J4	6276	E6	7908	H6		

MONOBOARD SUPPLY FR740 - FR965/17


1251
6,3A
1260
1261
6,3A
61V~
9251
9252
9285
To 1073/1074
Mains trafo
1262
1A
6275
1N4003GP
6274
1N4003GP
1258
T1A6
9260
2251
100n
6251
D5SBA20
2254
100n
2260
4700µ
+VL
+40V
-VL
-40V
2259
4700µ
7257
BC327-25
7258
BC327-25
-35,4V
3268
3k3
3269
3k3
-30
-31V
2283
220µ
-30V CIRCUIT
6276
BZX79/
C5V6
6280
BZX79/C10
BZX79/C15
6281
BZX79/C22
BZX79/C15
3266
22k
3270
47E
3271
47E
-26V
1255
f1
f2
amp prot
4,6V~
+4V
To 1072
Mains trafo
3291
10E
7910
BD242BFP
-12
-13,5V
2281
100n
3293
10k
3294
10k
2290
10µ
2295
10n
3292
15k
2282
470n
7908
BC857B
3295
15k
1265
To 1902
Surround
amplifier
To
Left & Right
& Center
Amplifier
1253
21V~
6257
1N4003GP
6261
1N4003GP
2266
100n
6258
6259
4x
1N4003GP
6262
6263
2268
100n
2269
2200µ
6260
L7812GP
+24
+26,5V
2270
100n
2271
470n
+12
+12V
3254
0E33
6265
L7805
+13V
2273
100n
2274
470n
+5
+5V
To 1071
Mains trafo
6268
1N4003GP
2287
3300µ
2272
6800µ
2275
1000µ
3257
0E33
1254
6267
L7805
+12,4V
2276
100n
2277
470n
+5D
+5V
3258
82k
3256
10k
MFD
7253
BC847B
2278
2µ2
POWER DOWN
CIRCUIT
Relay
+3,6V
To 1057
Mains part
1257
amp pd
amp stdby
To 1426
Front Part
REF
DIG
LEU0170
0002

Monoboard Supply FR740 - FR965/17
3104 217 06480 / 06490

V - Voltage measured during normal operation
- Source position : Tuner FM
- No special features ON

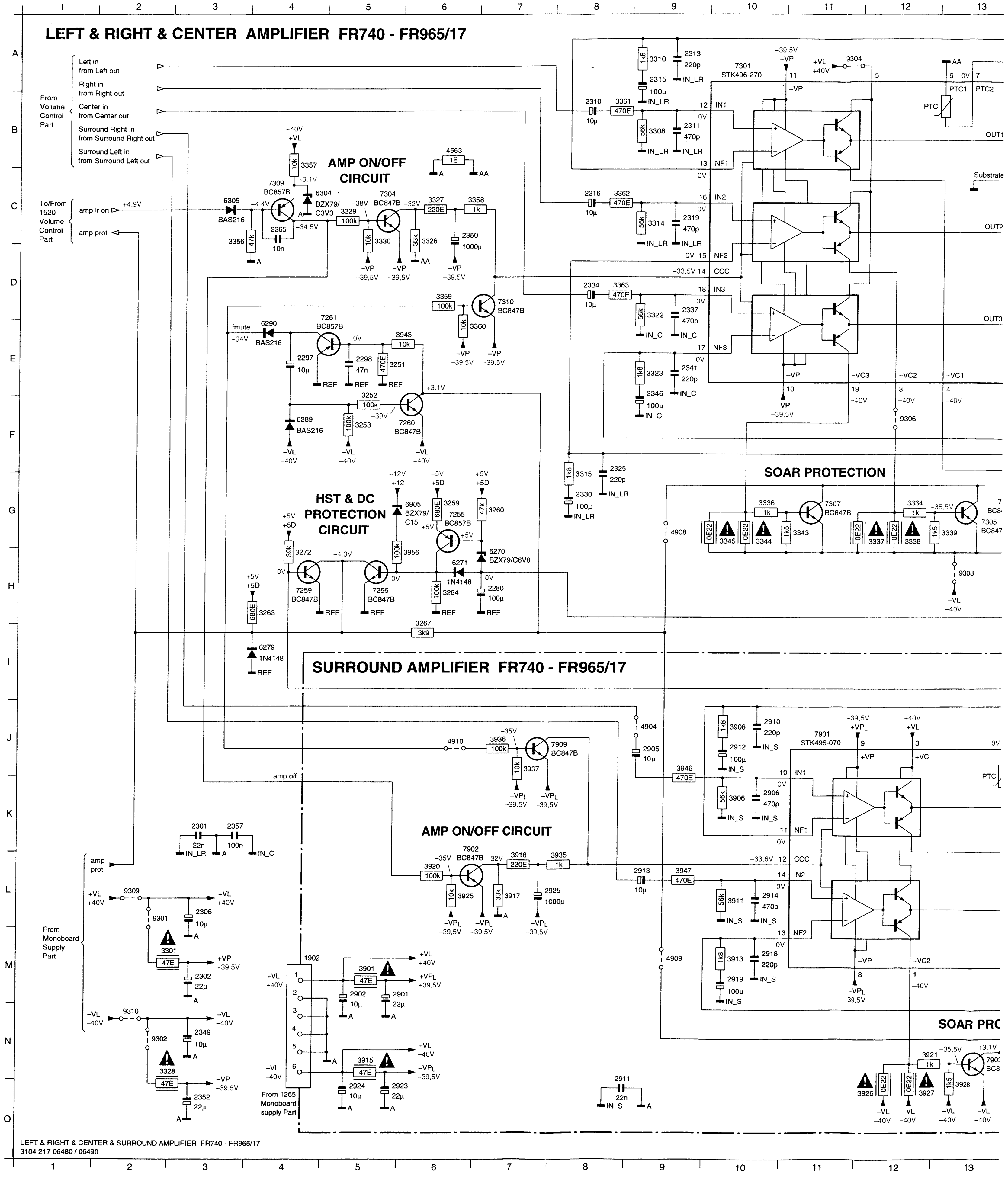
[V] Stand by

△ Only FR740

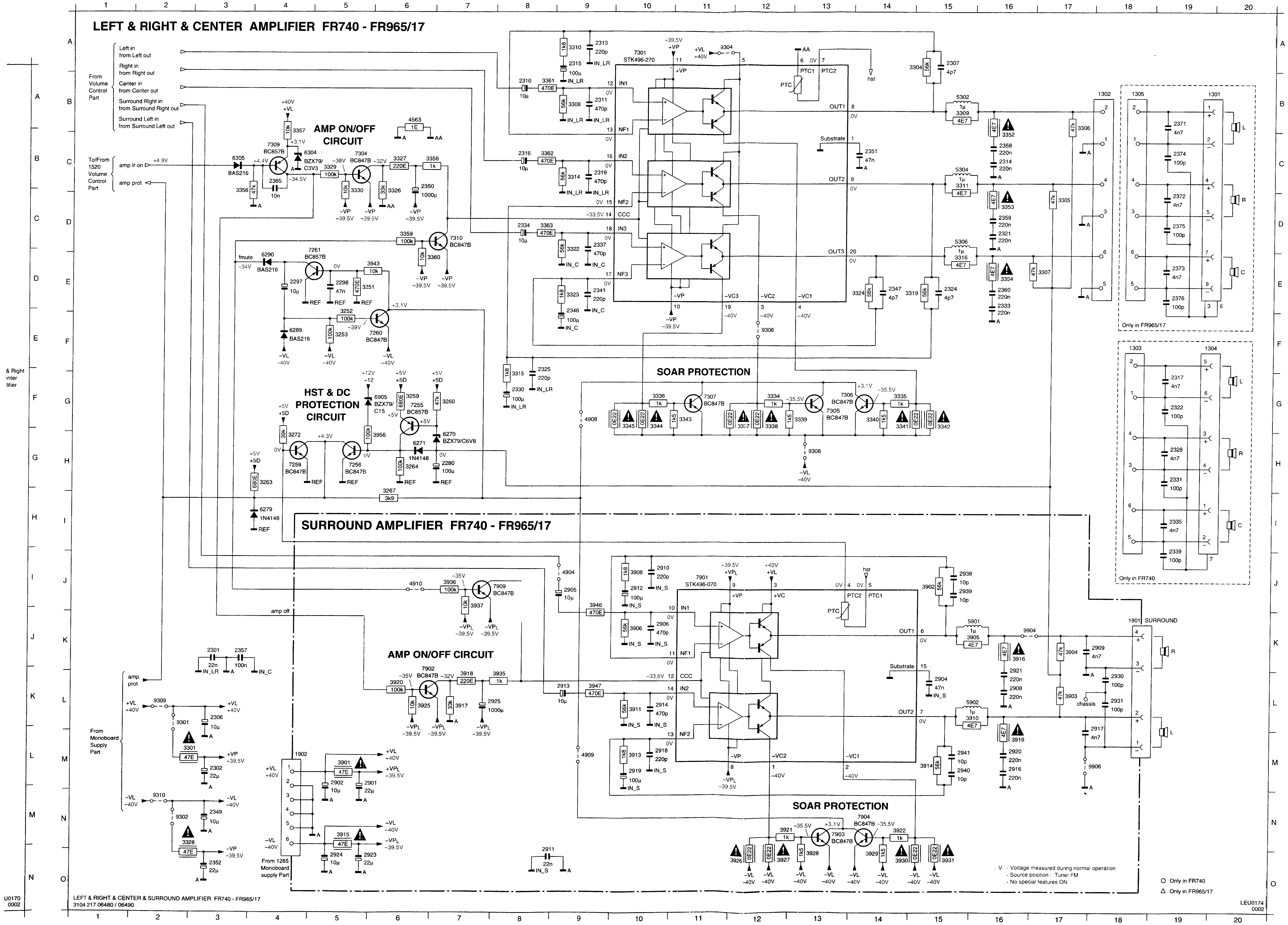
○ Only FR965/17

LEFT & RIGHT & CENTER AMPLIFIER FR740 - FR965/17

SURROUND AMPLIFIER FR740 - FR965/17

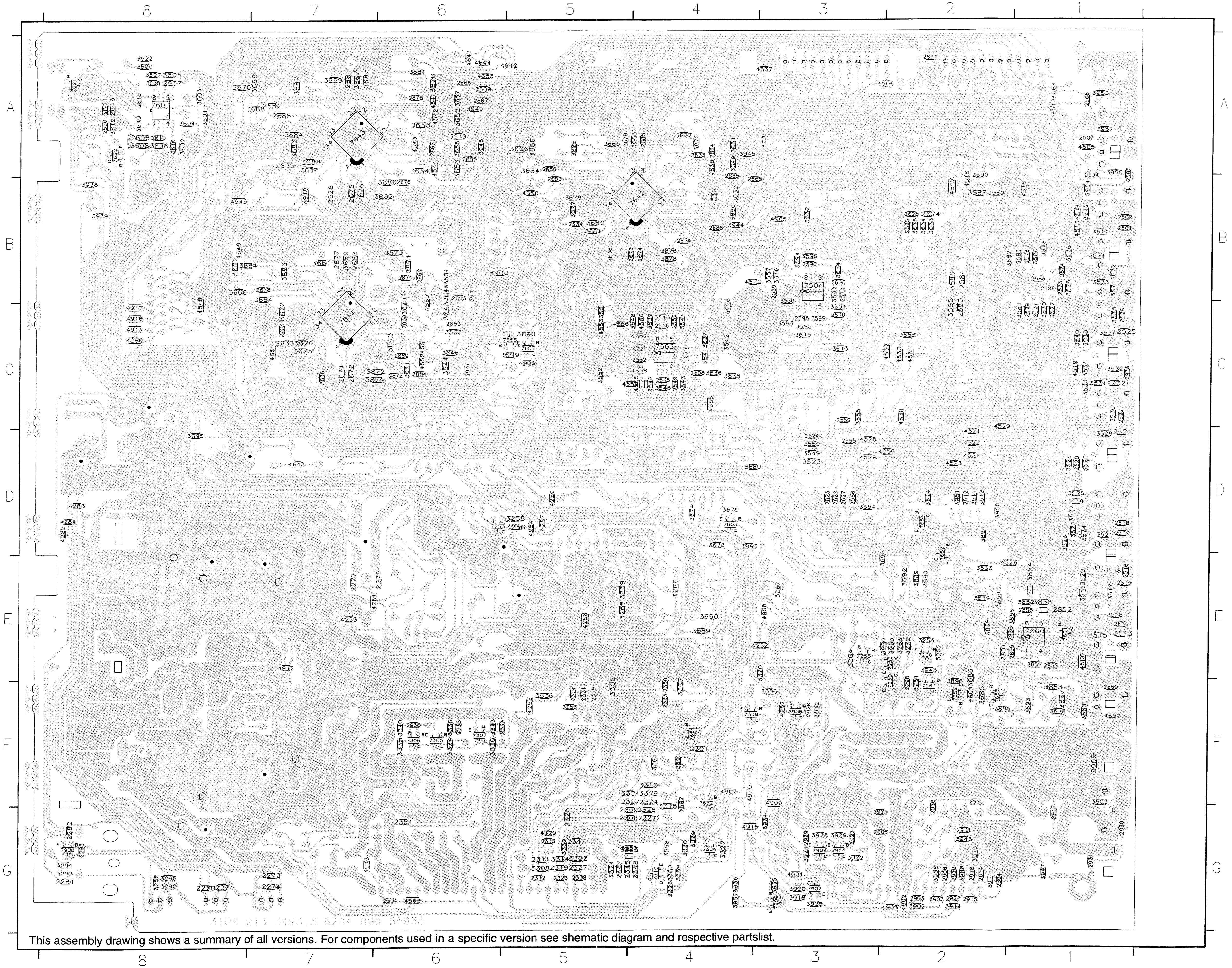

From
Volume
Control
Part
Left in
from Left out
Right in
from Right out
Center in
from Center out
Surround Right in
from Surround Right out
Surround Left in
from Surround Left out
To/From
1520
Volume
Control
Part
amp lr on
amp prot
AMP ON/OFF
CIRCUIT
7309
BC857B
7304
BC847B
6304
BZX79/
C3V3
6305
BAS216
3357
10k
3329
100k
3327
220E
3358
1k
2350
1000µ
3359
100k
7310
BC847B
4563
1E
fmute
6290
BAS216
7261
BC857B
3943
10k
7260
BC847B
3252
100k
6289
BAS216
HST & DC
PROTECTION
CIRCUIT
6905
BZX79/
C15
7255
BC857B
6270
BZX79/C6V8
6271
1N4148
7259
BC847B
7256
BC847B
3267
3k9
6279
1N4148
7301
STK496-270
IN1
NF1
IN2
NF2
CCC
IN3
NF3
3304
PTC
PTC1
PTC2
OUT1
OUT2
OUT3
Substrate
3310
1k8
2313
220p
3361
470E
3362
470E
3363
470E
SOAR PROTECTION
3336
1k
7307
BC847B
3334
1k
7305
4908
9308
-VC3
-VC2
-VC1
9306
4904
2905
10µ
4910
3936
100k
7909
BC847B
3937
10k
3946
470E
7901
STK496-070
amp off
AMP ON/OFF CIRCUIT
7902
BC847B
3920
100k
3918
220E
3935
1k
2925
1000µ
2913
10µ
3947
470E
2301
22n
2357
100n
amp
prot
From
Monoboard
Supply
Part
9309
9301
3301
47E
9310
9302
3328
47E
1902
3901
47E
3915
47E
From 1265
Monoboard
supply Part
2911
22n
4909
SOAR PRO
3921
1k
3926
3927
3928

LEFT & RIGHT & CENTER & SURROUND AMPLIFIER FR740 - FR965/17
3104 217 06480 / 06490


LEFT & RIGHT & CENTER AMPLIFIER FR740 - FR965/17
From Volume Control Part
Left in from Left out
Right in from Right out
Center in from Center out
Surround Right in from Surround Right out
Surround Left in from Surround Left out
To/From 1520 Volume Control Part
amp lr on
amp prot
AMP ON/OFF CIRCUIT
HST & DC PROTECTION CIRCUIT
7301 STK496-270
SOAR PROTECTION
Only in FR965/17
Only in FR740
SURROUND AMPLIFIER FR740 - FR965/17
7901 STK496-070
AMP ON/OFF CIRCUIT
1901 SURROUND
From Monoboard Supply Part
From 1265 Monoboard supply Part
SOAR PROTECTION
V - Voltage measured during normal operation
- Source position : Tuner FM
- No special features ON
○ Only in FR740
△ Only in FR965/17
LEFT & RIGHT & CENTER & SURROUND AMPLIFIER FR740 - FR965/17
3104 217 06480 / 06490
LEU0174 0002
U0170 0002

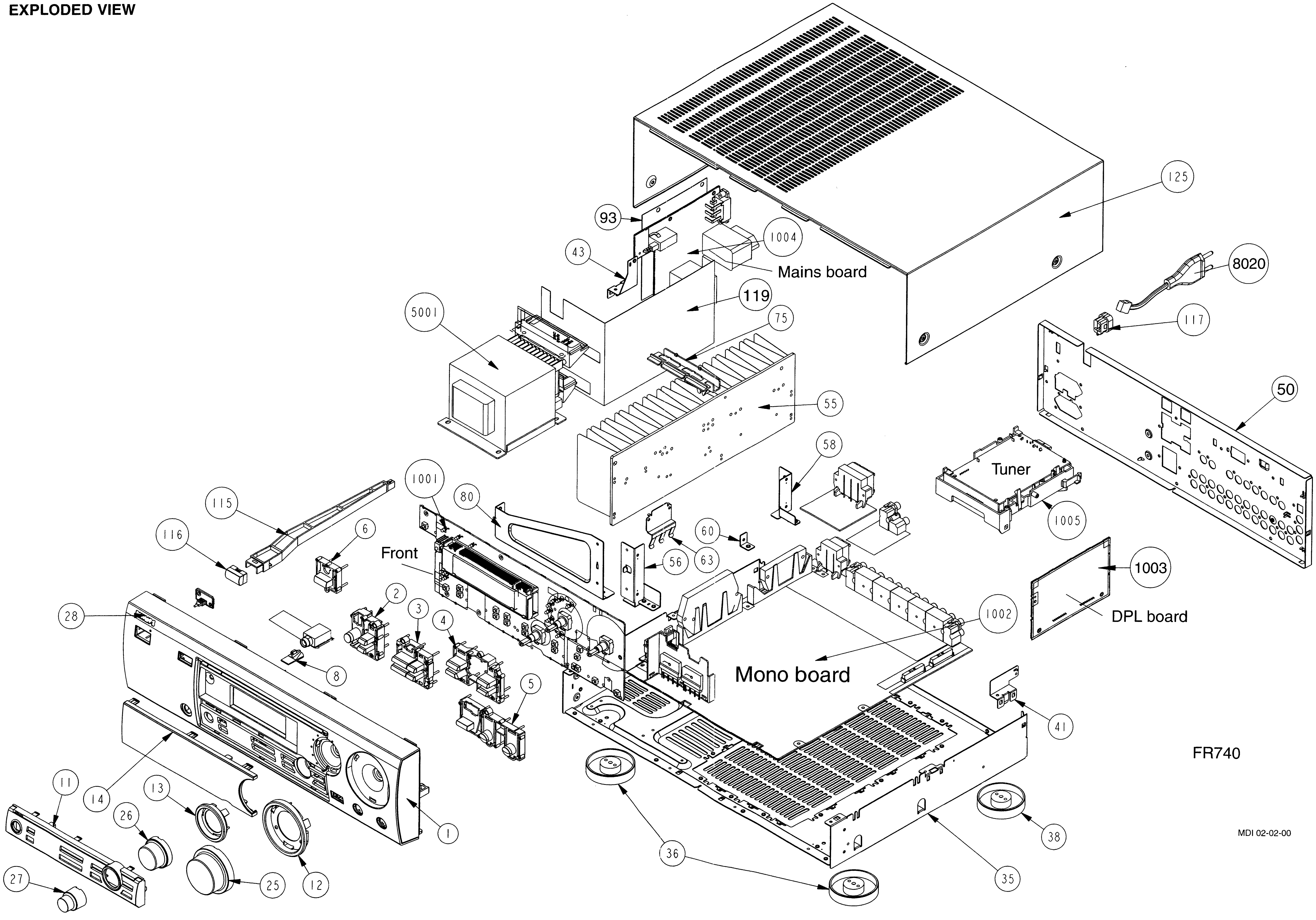
1301	B19	3352	C16
1302	B18	3353	D16
1303	F18	3354	E16
1304	F19	3356	D3
1305	B18	3357	C4
1901	K18	3358	C6
1902	M4	3359	D6
2280	H7	3360	E6
2297	E4	3361	B8
2298	E5	3362	C8
2301	K3	3363	D8
2302	M3	3901	M5
2306	L3	3902	J15
2307	A15	3903	L17
2310	B8	3904	K17
2311	B9	3905	K15
2313	A9	3906	K10
2314	C16	3908	J10
2315	A9	3910	L15
2316	C8	3911	L10
2317	G19	3913	M10
2319	C9	3914	M15
2321	D16	3915	N5
2322	G19	3916	K16
2324	E15	3917	L7
2325	F8	3918	L7
2328	H19	3919	M16
2330	G8	3920	L6
2331	H19	3921	N12
2333	E16	3922	N14
2334	D8	3925	L6
2335	I19	3926	O12
2337	D9	3927	O12
2339	J19	3928	O13
2341	E9	3929	O14
2346	F9	3930	O14
2347	E14	3931	O15
2349	N3	3935	L8
2350	C6	3936	J7
2351	C14	3937	J7
2352	O3	3943	E5
2357	K3	3946	J9
2358	C16	3947	L9
2359	D16	3956	H6
2360	E16	4563	B6
2365	C4	4904	J9
2371	B19	4908	G9
2372	D19	4909	M9
2373	E19	4910	J6
2374	C19	5302	B15
2375	D19	5304	C15
2376	E19	5306	D15
2901	M5	5901	K15
2902	M5	5902	L15
2904	L15	6270	H7
2905	J9	6271	H6
2906	K10	6279	I4
2908	L16	6289	F4
2909	K18	6290	E4
2910	J10	6304	C4
2911	O8	6305	C3
2912	J10	6905	G6
2913	L9	7255	G6
2914	L10	7256	H5
2916	M16	7259	H4
2917	L18	7260	F5
2918	M10	7261	E4
2919	M10	7301	A10
2920	M16	7304	C5
2921	L16	7305	G13
2923	O5	7306	G13
2924	O5	7307	G11
2925	L7	7309	C4
2930	L18	7310	D7
2931	L18	7901	J11
2938	J15	7902	L6
2939	J15	7903	N13
2940	M15	7904	N14
2941	M15	7909	J8
3251	E5	9301	L2
3252	F5	9302	N2
3253	F5	9304	A11
3259	G6	9306	F12
3260	G7	9308	H13
3263	H4	9309	L2
3264	H6	9310	N2
3267	I6	9904	K16
3272	H4	9906	M18
3301	M2		
3304	A14		
3305	D17		
3306	B17		
3307	E17		
3308	B9		
3309	B15		
3310	A9		
3311	C15		
3314	C9		
3315	G8		
3316	E15		
3319	E14		
3322	D9		
3323	E9		
3324	E13		
3326	D6		
3327	C6		
3328	N2		
3329	C5		
3330	D5		
3334	G12		
3335	G14		
3336	G10		
3337	G12		
3338	G12		
3339	G13		
3340	G14		
3341	G14		
3342	G15		
3343	G11		
3344	G10		
3345	G10		

MONO BOARD - COPPER SIDE VIEW


8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
7643
7642
7641
7503
7504
7660
3104 213 3493.5

This assembly drawing shows a summary of all versions. For components used in a specific version see shematic diagram and respective partslist.

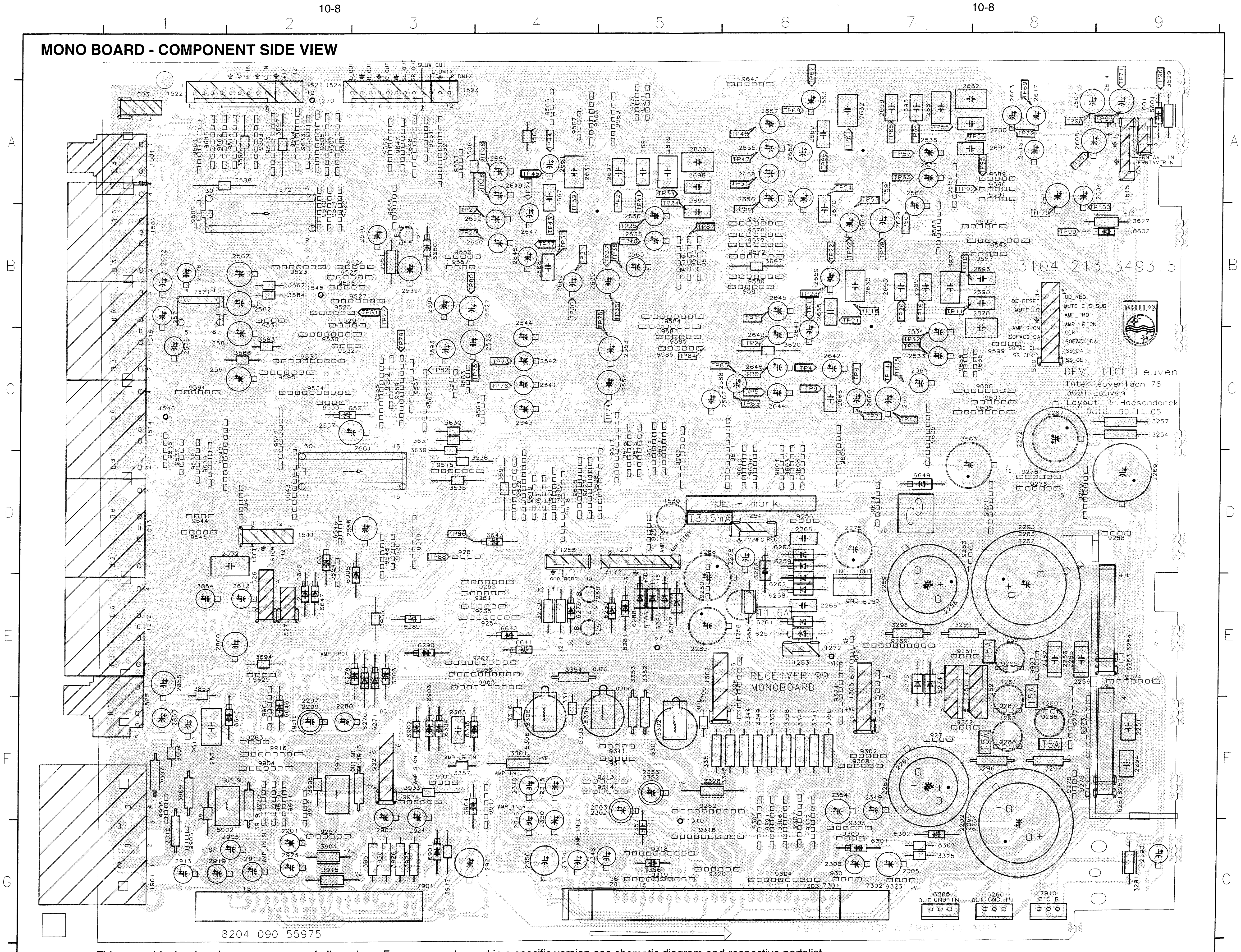
EXPLODED VIEW


125
93
1004
43
Mains board
8020
119
5001
75
117
55
50
58
Tuner
1001
80
115
116
6
60
63
56
Front
1005
1003
28
2
3
4
1002
DPL board
8
5
Mono board
41
FR740
11
14
13
26
1
36
38
MDI 02-02-00
27
25
12
35

SCALE 0.250

Note: Only the parts mentioned in this list are normal service parts.

MONO BOARD - COMPONENT SIDE VIEW


10-8
10-8
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
3104 213 3493.5
PHILIPS
DEV. ITCL Leuven
Interleuvenlaan 76
3001 Leuven
Layout: L. Haesendonck
Date: 99-11-05
UL - mark
T315mA
T1.6A
T5A
RECEIVER 99
MONOBOARD
8204 090 55975
DD_RESET
MUTE_LR
AMP_S_ON
SOFAC2_DA
SOFAC_CLK
SS_CLK
DD_REQ
MUTE_C_S_SUB
AMP_PROT
AMP_LR_ON
CLK
SOFAC1_DA
SS_DA
SS_CE
FRNTAV_LIN
FRNTAV_RIN
AMP_PROT
AMP_LR_ON
AMP_S_ON
AMP_IN_L
AMP_IN_R
AMP_IN_C
AMP_IN_SL
OUT_SL
OUT_SR
FMUTE
OUTC
OUTR
OUTL
IN
OUT
GND
OUT GND IN
OUT GND IN
E C B

This assembly drawing shows a summary of all versions. For components used in a specific version see shematic diagram and respective partslist.

MONO BOARD - MAPPING COMPONENT SIDE VIEW

1251	E7	2302	F5	2639	B5	3297	F8	5902	F2	9257	G2	9525	B2	9606	C8
1252	E8	2303	F5	2641	C6	3298	E7	6251	F9	9258	D9	9526	B2	9608	D6
1253	E6	2305	G7	2642	C6	3299	E7	6252	F9	9259	D8	9527	B3	9609	D6
1254	D6	2306	G7	2643	C6	3301	F4	6253	E9	9260	E5	9528	B2	9610	D6
1255	D4	2310	F4	2644	C6	3303	G7	6254	E9	9261	E4	9529	B2	9611	D6
1257	D5	2315	F4	2645	B6	3309	F5	6257	E6	9262	F5	9530	C2	9613	C5
1258	E6	2316	G4	2646	C6	3311	F4	6258	E6	9263	F2	9531	B2	9614	C5
1259	E8	2330	G4	2647	B4	3316	F4	6259	D6	9265	E4	9532	C2	9615	D5
1260	F8	2334	G4	2648	B4	3325	G7	6260	G8	9267	E4	9533	C2	9616	D5
1261	F8	2346	G5	2649	A4	3328	F5	6261	E6	9268	E4	9534	C2	9617	C5
1262	F8	2349	F7	2650	B4	3337	F6	6262	E6	9269	E7	9535	C2	9618	D4
1265	F7	2350	G4	2651	A4	3338	F6	6263	D6	9271	F7	9536	C1	9619	D4
1270	A2	2352	F5	2652	B4	3341	F6	6265	G7	9272	F8	9537	D1	9621	D4
1271	E5	2353	F5	2653	A6	3342	F6	6267	E7	9273	F8	9538	D1	9624	D7
1272	E6	2354	F6	2654	A6	3344	F6	6268	D6	9274	E9	9539	D1	9625	C7
1302	E6	2356	G5	2655	A6	3345	F6	6270	E3	9275	F8	9540	D2	9626	D4
1310	G5	2357	G5	2656	A6	3349	F6	6271	E3	9276	D8	9541	D2	9627	D4
1501	A1	2365	F3	2657	A6	3350	F6	6274	E7	9278	D8	9542	C2	9628	D5
1502	B1	2527	B3	2658	A6	3351	F6	6275	E7	9279	F8	9543	D2	9629	E2
1503	A1	2528	C3	2659	B6	3352	F5	6276	E4	9280	D8	9544	D1	9630	D4
1511	D2	2531	F1	2660	C7	3353	F5	6279	E3	9281	D3	9545	D1	9631	D4
1512	E1	2532	D2	2661	A4	3354	E4	6280	E5	9285	E8	9546	D2	9632	D4
1513	D1	2533	C7	2662	B4	3357	F3	6281	E5	9286	F8	9548	D3	9633	A2
1514	C1	2534	C7	2663	A6	3505	A4	6285	E5	9287	F8	9549	D3	9643	A6
1515	A9	2535	B5	2664	B7	3506	A3	6286	E5	9288	F8	9550	A3	9645	A1
1516	C1	2536	B5	2665	B6	3535	D3	6287	E5	9301	G7	9551	A3	9647	A3
1520	B8	2537	A7	2666	C6	3536	D3	6288	E5	9302	F7	9552	A3	9648	A3
1521	A2	2538	A7	2667	A4	3561	B3	6289	E3	9303	G7	9553	A3	9651	A7
1522	A2	2539	B3	2668	B4	3566	C2	6290	E3	9304	G6	9555	B3	9654	D2
1523	A3	2540	B3	2669	A6	3567	B2	6301	G7	9305	G6	9556	B3	9655	C8
1524	A3	2541	C4	2670	B6	3583	C2	6302	G7	9306	G6	9557	B3	9656	C7
1525	F1	2542	C4	2689	B7	3584	B2	6303	E3	9307	G6	9558	C3	9657	B8
1526	E2	2543	C4	2690	B8	3588	A1	6304	F3	9308	F7	9559	C3	9901	F2
1527	E2	2544	C4	2691	A5	3597	A2	6305	F4	9309	G7	9560	C3	9903	E4
1530	D5	2553	C5	2692	B5	3598	A2	6501	C2	9310	F7	9561	C3	9904	F2
1545	B2	2554	C5	2693	A7	3620	C6	6601	A9	9311	F5	9562	C3	9905	F1
1546	C1	2557	C3	2694	A7	3627	B9	6602	B9	9312	F5	9563	C3	9906	G1
1601	A9	2558	D3	2695	B7	3629	A9	6641	E4	9313	F5	9564	C4	9907	D5
1901	G1	2561	C2	2696	B8	3630	D3	6642	E4	9314	F5	9566	A4	9910	F2
1902	F3	2562	B2	2697	A5	3631	C3	6643	D4	9316	G5	9567	A4	9911	F2
2251	F9	2563	D7	2698	A5	3632	C3	6644	D2	9318	G5	9568	A4	9912	F2
2252	E8	2564	C7	2699	A7	3691	D4	6645	F2	9319	G5	9569	A5	9913	F3
2253	E8	2565	B5	2700	A7	3694	E2	6646	F2	9320	G6	9570	A5	9914	F3
2254	F9	2566	B7	2853	F1	3697	B6	6647	E2	9321	G6	9571	A5	9916	F2
2255	E8	2567	C5	2854	E1	3855	E1	6648	E2	9322	G6	9573	B5	9917	F4
2256	E8	2568	C6	2858	E1	3901	G2	6649	D7	9323	G7	9574	B6	9920	F2
2258	E7	2571	B1	2860	E2	3904	F1	6650	B3	9324	E6	9577	B6	9921	D8
2259	E7	2572	B1	2877	B7	3905	F2	6901	G3	9325	E7	9578	B6	9923	E8
2260	F7	2575	C1	2878	C8	3907	F1	6902	F3	9326	E6	9579	B6		
2261	F7	2576	B1	2879	A5	3909	F1	6903	F3	9501	A1	9580	B6		
2262	E8	2581	C2	2880	A5	3910	F1	6904	F4	9502	A1	9581	B6		
2263	E8	2582	B2	2881	A7	3912	G1	6905	E3	9503	A2	9583	C5		
2264	G8	2593	C3	2882	A7	3915	G2	7257	E4	9504	A2	9584	B5		
2265	G8	2594	B3	2901	G2	3916	F3	7258	E4	9505	A2	9585	C5		
2266	E6	2603	A8	2902	F3	3917	G3	7301	G5	9507	A2	9586	C5		
2268	D6	2604	A8	2905	G2	3919	F2	7302	G6	9508	A2	9588	B7		
2269	D9	2607	A8	2912	G2	3926	G3	7303	G5	9509	B1	9589	A8		
2272	C8	2608	A8	2913	G1	3927	G3	7501	D3	9510	B2	9590	A8		
2275	D7	2611	A8	2919	G1	3930	G3	7571	B1	9511	C3	9591	A8		
2278	D6	2612	F1	2923	G2	3931	G3	7572	B2	9513	A2	9592	B8		
2280	F2	2613	E2	2924	F3	3933	F3	7644	B3	9514	A2	9593	B8		
2283	E5	2614	A9	2925	G4	3956	E3	7901	G2	9515	D3	9594	C1		
2287	C8	2617	A8	3254	C9	5301	F5	7910	G8	9516	B5	9595	C2		
2288	E5	2618	A8	3257	C9	5302	F5	9251	E7	9517	B5	9599	C8		
2290	G9	2629	B7	3265	E6	5303	F5	9252	F7	9520	D3	9600	C8		
2292	G8	2630	B7	3270	E4	5304	F5	9253	E4	9521	B2	9601	C8		
2293	E8	2631	A4	3271	E4	5305	F4	9254	E4	9522	B2	9603	D6		
2297	F2	2632	A6	3291	G9	5306	F4	9255	D5	9523	B2	9604	D6		
2299	F2	2637	C7	3296	F8	5901	F2	9256	D6	9524	B3	9605	D6		

MONO BOARD - MAPPING COPPER SIDE VIEW

2270	G8	2552	C4	2868	C6	3319	F4	3556	C4	3656	A6	3889	E2	4520	C2	7305	F6
2271	G8	2555	D3	2869	C6	3320	E3	3557	B3	3657	A6	3890	E2	4521	D2	7306	F6
2273	G7	2556	D3	2871	B6	3322	G5	3560	F1	3658	A6	3891	F4	4522	D2	7307	F6
2274	G7	2559	C3	2872	C6	3323	G4	3562	B3	3659	B7	3892	G4	4523	D2	7309	F4
2276	E6	2569	F1	2873	A4	3324	G5	3563	E2	3660	B8	3893	D4	4524	D2	7310	G4
2277	E7	2570	B3	2874	B4	3326	G4	3571	B1	3661	B7	3894	D2	4526	E2	7503	C4
2281	G8	2573	B1	2875	A6	3327	G4	3572	B1	3662	B8	3895	F2	4528	D3	7504	B3
2282	G8	2574	B1	2876	B6	3329	G4	3573	B1	3663	A4	3896	F2	4529	D3	7601	A8
2295	G8	2577	C1	2883	B6	3330	G4	3574	B1	3664	A5	3902	G2	4530	C2	7621	A8
2298	F2	2578	B1	2884	C6	3334	F6	3575	B1	3665	A5	3903	F1	4531	C2	7622	A8
2301	F4	2579	C1	2885	B4	3335	F6	3576	B1	3666	A5	3906	G2	4532	C2	7641	C7
2304	G6	2580	B1	2886	B4	3336	F6	3577	C1	3667	A7	3908	G2	4533	C2	7642	B4
2307	F4	2583	C2	2887	A6	3339	F6	3578	B1	3668	A7	3911	G2	4537	A3	7643	A7
2308	G4	2584	B2	2888	A6	3340	F6	3579	C1	3669	A7	3913	G2	4538	A4	7651	F4
2309	G4	2585	B1	2903	G2	3343	F6	3580	B1	3670	A8	3914	G2	4539	B4	7652	F4
2311	G5	2586	B1	2904	G2	3356	F3	3581	C1	3671	C7	3918	G3	4540	A3	7653	D4
2312	G5	2595	C3	2906	G2	3358	G4	3582	B2	3672	C7	3920	G3	4541	A6	7654	D2
2313	G5	2596	B3	2907	G2	3359	G4	3585	C2	3673	D4	3921	G3	4542	A6	7655	F2
2314	F5	2599	C3	2908	G2	3360	G4	3586	B2	3674	D4	3922	G3	4543	A6	7656	F2
2319	G5	2600	B3	2909	F1	3361	F4	3587	B2	3675	C7	3925	G3	4544	A6	7657	C5
2320	G5	2605	A8	2910	G2	3362	G5	3589	B2	3676	C7	3928	G3	4545	B8	7658	C5
2321	F5	2606	A8	2911	G2	3363	G4	3590	B2	3677	B5	3929	G3	4548	C8	7660	E1
2324	F4	2610	A8	2914	G2	3501	B6	3591	C3	3678	B5	3932	F3	4550	C6	7661	E1
2325	G5	2615	A8	2915	G2	3502	C6	3592	B3	3679	D4	3934	G3	4551	C6	7662	E2
2326	G4	2616	A8	2916	G2	3509	A6	3593	C3	3680	D4	3935	G3	4552	C6	7902	G3
2327	G4	2619	A8	2917	G1	3510	A6	3594	B3	3681	B5	3936	G4	4553	C5	7903	G3
2333	F4	2620	A8	2918	G2	3511	B1	3595	C3	3682	B5	3937	G4	4555	C4	7904	G3
2337	G5	2622	D3	2920	F2	3512	B1	3596	B3	3683	A7	3938	B8	4556	C5	7906	F3
2338	G5	2623	D3	2921	G2	3513	D2	3601	A8	3684	A7	3939	B8	4557	C4	7908	G8
2341	G5	2624	B2	2922	G2	3514	D2	3602	A8	3685	F2	3940	C6	4558	C4	7909	G3
2345	G5	2625	B2	2926	E1	3515	E1	3603	A8	3686	E2	3941	B6	4559	C5		
2347	G5	2626	B2	2927	G3	3516	E1	3604	A8	3687	A7	3943	E2	4560	E1		
2348	G4	2627	D3	2928	F3	3517	E1	3605	A8	3688	A7	3944	B4	4563	G6		
2351	G6	2628	B7	2929	G3	3518	E1	3606	A8	3689	E4	3945	A4	4564	A1		
2358	F5	2633	C7	2930	G1	3519	E1	3607	A8	3690	E4	3946	G2	4565	C4		
2359	F5	2634	B5	2931	G1	3520	E1	3608	A8	3692	E2	3947	G1	4566	C4		
2360	F4	2635	A7	2932	C1	3521	D1	3609	A8	3693	F1	3948	A6	4641	A6		
2363	F5	2636	C7	2933	C1	3522	D1	3610	A8	3695	D8	3949	A6	4642	A5		
2501	B1	2638	B5	2934	B1	3523	D1	3611	A8	3696	C5	3950	D2	4643	D7		
2502	B1	2671	C7	2935	F6	3524	D1	3612	A8	3698	E2	3951	D2	4644	A6		
2505	B1	2672	C7	2936	F6	3525	D1	3613	C3	3699	C5	3952	A1	4649	B8		
2506	A1	2673	B5	2937	A8	3526	D1	3614	B3	3700	B6	3953	A1	4650	B5		
2507	A1	2674	B4	3251	F2	3527	D1	3615	C3	3851	E2	3954	B1	4651	C7		
2508	C4	2675	B7	3252	E2	3528	D1	3616	B3	3852	E1	3955	A1	4652	F1		
2509	C4	2676	B7	3253	E2	3529	D1	3618	F1	3853	F1	4251	E7	4653	A6		
2510	C3	2677	B7	3255	G8	3530	C1	3619	E2	3854	E1	4252	E3	4901	G3		
2511	D2	2678	B7	3256	D5	3531	C1	3621	C6	3856	E1	4253	E7	4902	G2		
2512	D2	2679	A5	3258	D5	3532	C1	3622	A8	3857	F1	4254	D5	4903	G2		
2513	E1	2680	A5	3259	E2	3533	C1	3623	A8	3858	E1	4255	F5	4904	F2		
2514	E1	2681	A7	3260	E2	3534	C1	3633	B2	3859	E2	4256	D2	4905	B3		
2515	E1	2682	A7	3263	E2	3537	C1	3634	B2	3860	E2	4257	F3	4906	C5		
2516	E1	2683	B7	3264	E3	3538	C1	3635	B2	3871	B6	4258	E5	4907	F4		
2517	D1	2684	B7	3266	E4	3539	C1	3636	C4	3872	C6	4259	D5	4908	E3		
2518	D1	2685	A4	3267	E3	3540	C1	3637	C4	3873	B6	4260	C8	4909	F3		
2519	D1	2686	B5	3268	E5	3541	C4	3638	C4	3874	C6	4283	D8	4910	F4		
2520	D1	2687	A7	3269	E5	3542	C4	3639	C4	3875	A4	4284	D8	4912	E7		
2521	D1	2688	A7	3272	E2	3543	C4	3641	C6	3876	B4	4285	D8	4913	G7		
2522	C1	2851	E1	3292	G8	3544	C4	3642	C6	3877	A4	4287	D5	4914	C8		
2523	D3	2852	E1	3293	G8	3545	C4	3643	C6	3878	B4	4320	G5	4915	G4		
2524	D3	2855	E1	3294	G8	3546	C4	3644	C6	3879	A6	4505	A1	4916	C8		
2525	C1	2856	E1	3295	G8	3547	C4	3645	B6	3880	B6	4506	A3	4917	C8		
2526	C1	2857	E1	3304	F4	3548	C4	3646	C6	3881	A6	4512	B4	4918	B7		
2529	B3	2861	A2	3305	F5	3549	D3	3649	A4	3882	B6	4513	A1	7253	D6		
2530	B3	2862	B6	3306	F5	3550	D3	3650	B4	3883	B7	4514	B1	7255	E3		
2545	C4	2863	C6	3307	F4	3551	C5	3651	A4	3884	B8	4515	B1	7256	E2		
2546	C4	2864	A4	3308	G5	3552	C5	3652	B4	3885	A5	4516	B1	7259	F2		
2549	C4	2865	B4	3310	F4	3553	C2	3653	A6	3886	A5	4517	B2	7260	E2		
2550	C4	2866	A6	3314	G5	3554	D3	3654	A6	3887	A7	4518	B2	7261	F2		
2551	C4	2867	A6	3315	G4	3555	C3	3655	A6	3888	A7	4519	C1	7304	G4		

ELECTRICAL PARTSLIST - MONO BOARD

MISCELLANEOUS

1258 ▲	482207151602	FUSE 1,6A
1260 ▲	482225251123	FUSE 6,3A
1261 ▲	482225251123	FUSE 6,3A
1262 ▲	482225251173	FUSE 1A
1304	482226511607	CLICK FIT 6P LS
1501	482226511586	2P YKC21-4052
1502	482226731823	YKC21-3424
1512	482226731823	YKC21-3424
1513	482226731823	YKC21-3424
1514	482226731823	YKC21-3424
1520	482226510981	15FE-BT-VK-N
1525	482226511608	2P YKC21-4053
1540	482226520542	CINCH 2P
1550	482226731729	CINCH 1P
1901	482226511609	CLICK FIT 4P LS

CAPACITORS

2251	532212142578	100NF 5% 250V
2254	532212142578	100NF 5% 250V
2259	482212480415	4700UF20% 50V
2260	482212480415	4700UF20% 50V
2266	532212142386	100NF 5% 63V
2268	532212142386	100NF 5% 63V
2269	482212411583	2200UF 20% 35V
2270	482212613838	100NF Y5V 50V P80M20
2271	482212614583	470NF 10% 16V XTR 0805
2273	482212614585	100NF 10% X7R 0805 50V
2274	482212614583	470NF 10% 16V XTR 0805
2275	482212481144	1000U 16V
2276	482212614585	100NF 10% X7R 0805 50V
2277	482212614583	470NF 10% 16V XTR 0805
2278	482212422652	2,2UF20% 50V
2280	482212441584	100UF 20% 10V
2281	482212613838	100NF Y5V 50V P80M20
2282	482212614583	470NF 10% 16V XTR 0805
2283	482212411769	220UF 20% 50V
2287	482212440784	3300UF 20% 16V
2290	482212440248	10UF20% 63V
2295	482212233177	10NF 20% X7R 50V
2297	482212440248	10UF20% 63V
2298	482212613751	47NF10% X7R 63V
2301	532212232654	22NF10%X7R 63V
2302	482212481151	22UF 50V
2306	482212440248	10UF20% 63V
2307	532212232287	4,7PF 5%NP0 50V
2310	482212440248	10UF20% 63V
2311	532212232268	470PF 10% 50V
2313	482212233575	220PF 5% NP0 63V
2314	482212613473	220NF80-20% 50V
2315	482212441584	100UF 20% 10V
2316	482212440248	10UF20% 63V
2317	532212610223	4,7NF10%X7R 63V
2319	532212232268	470PF 10% 50V
2321	482212613473	220NF80-20% 50V
2322	532212232531	100PF 5%NP0 50V
2324	532212232287	4,7PF 5%NP0 50V
2325	482212233575	220PF 5% NP0 63V
2328	532212610223	4,7NF10%X7R 63V
2330	482212441584	100UF 20% 10V
2331	532212232531	100PF 5%NP0 50V
2333	482212613473	220NF80-20% 50V
2334	482212440248	10UF20% 63V
2335	532212610223	4,7NF10%X7R 63V
2337	532212232268	470PF 10% 50V
2339	532212232531	100PF 5%NP0 50V

CAPACITORS

2341	482212233575	220PF 5% NP0 63V
2346	482212441584	100UF 20% 10V
2347	532212232287	4,7PF 5%NP0 50V
2349	482212440248	10UF20% 63V
2350	482212440181	220UF20% 10V
2351	482212613751	47NF10% X7R 63V
2352	482212481151	22UF 50V
2357	482212612882	100NF+80-20% 50V
2358	482212613473	220NF80-20% 50V
2359	482212613473	220NF80-20% 50V
2360	482212613473	220NF80-20% 50V
2365	482212141857	10NF 5% 250V
2501	532212610511	1NF 5%NP0 50V
2502	532212610511	1NF 5%NP0 50V
2505	532212610511	1NF 5%NP0 50V
2506	532212610511	1NF 5%NP0 50V
2507	532212610511	1NF 5%NP0 50V
2508	532212232531	100PF 5%NP0 50V
2509	532212232531	100PF 5%NP0 50V
2511	532212232531	100PF 5%NP0 50V
2512	532212232531	100PF 5%NP0 50V
2513	532212232531	100PF 5%NP0 50V
2514	532212232531	100PF 5%NP0 50V
2515	532212232531	100PF 5%NP0 50V
2516	532212232531	100PF 5%NP0 50V
2517	532212232531	100PF 5%NP0 50V
2518	532212232531	100PF 5%NP0 50V
2519	532212232531	100PF 5%NP0 50V
2520	532212232531	100PF 5%NP0 50V
2521	532212232531	100PF 5%NP0 50V
2522	532212232531	100PF 5%NP0 50V
2531	482212142408	220NF 5% 63V
2532	482212142408	220NF 5% 63V
2533	482212481151	22UF 50V
2534	482212481151	22UF 50V
2535	482212481151	22UF 50V
2536	482212481151	22UF 50V
2537	482212481151	22UF 50V
2538	482212481151	22UF 50V
2539	482212440207	100UF20% 25V
2540	482212440433	47UF20% 25V
2541	482212440248	10UF20% 63V
2542	482212440248	10UF20% 63V
2543	482212411912	220UF 20% 6,3V
2544	482212411912	220UF 20% 6,3V
2545	532212232531	100PF 5%NP0 50V
2546	532212232531	100PF 5%NP0 50V
2549	532212232658	22PF 5% 50V
2550	532212232658	22PF 5% 50V
2551	482212613838	100NF Y5V 50V P80M20
2552	482212613838	100NF Y5V 50V P80M20
2553	482212441751	47UF 20% 50V
2554	482212441751	47UF 20% 50V
2555	482212613838	100NF Y5V 50V P80M20
2556	482212613838	100NF Y5V 50V P80M20
2557	482212441751	47UF 20% 50V
2558	482212441751	47UF 20% 50V
2559	482212612105	CER2 X7R 50V 33NF PM5
2563	482212314025	16V 2200U 20%
2564	482212422652	2,2UF20% 50V
2565	482212422652	2,2UF20% 50V
2566	482212422652	2,2UF20% 50V
2567	482212440769	4,7UF20% 100V
2568	482212440769	4,7UF20% 100V
2569	532212232531	100PF 5%NP0 50V

PARTSLIST - EXPLODED VIEW

MECHANICAL PARTS

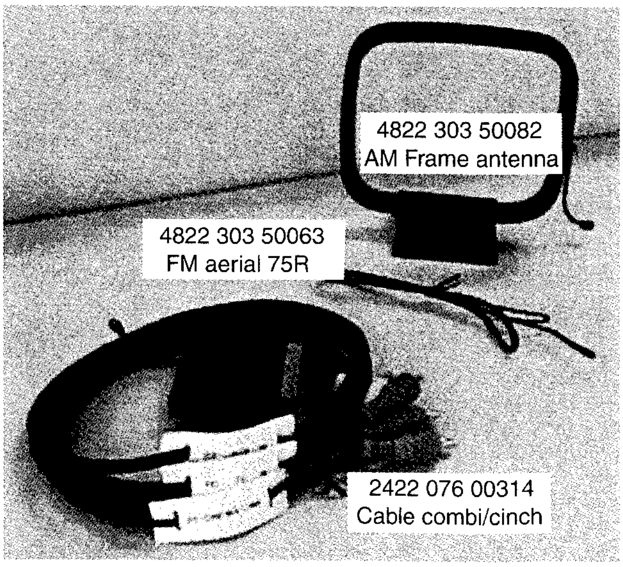
1	310421752750	FRONT CAB ASSY FR740
2	482241012442	BUTTON HINGE ASSY SURROUND
3	482241012435	BUTTONS HINGE TUNER
4	482241012443	BUTTON HINGE ASSY MENU
5	482241012436	BUTTONS HINGE BT
6	482241012437	BUTTONS EASY LINK
8	482238010274	LIGHT GUIDE SURROUND
10	482238010277	LIGHT GUIDE SELECTOR
11	482245413472	ORN. PLATE ASSY (BL)
12	482253213147	RING KNOB VOLUME (BL)
13	482253213148	RING KNOB SOURCE SELECTOR (BL)
14	482245010664	WINDOW DISPLAY ASSY
25	482241012438	KNOB VOLUME (BL)
26	482241012439	KNOB SOURCE SELECTOR (BL)
27	482241012441	KNOB MENU NAV (BL)
28	482245910887	BADGE PHILIPS ASSY
36	482269110773	LEG SILVER
38	482246242158	FOOT BLACK
115	482253510638	POWER ROD
116	482246211176	POWER CAP
117	482253260948	BUSH
125	482244201817	COVERPLATE

ELECTRICAL PARTS

5001	310421830980	TRAFO FR740/00 5 X 50W
8020	482232111139	POWER CORD

MISCELLANEOUS

310421904210	HOME CINEMA SPEAKER 60W
482232012719	CORD SET L/R BOX
310421904200	HOME CINEMA CENTER SPEAKER 60W
482232012721	CORD SET CENTER SPEAKER
310421904190	HOME CINEMA SURR.SPEAKER 60W
482232012722	CORD SET SURROUND SPEAKER
482221910707	RC2526/01
310330616980	INSTR.F.USE FR740/00P



ELECTRICAL PARTSLIST - MONO BOARD

CAPASITORS		
2603	482212481151	22UF 50V
2604	482212481151	22UF 50V
2605	482212613692	47PF 1% NP0 63V
2606	482212613692	47PF 1% NP0 63V
2607	482212441751	47UF 20% 50V
2608	482212441751	47UF 20% 50V
2610	482212233575	220PF 5% NP0 63V
2611	482212440207	100UF20% 25V
2612	482212440248	10UF20% 63V
2613	482212440248	10UF20% 63V
2614	482212440207	100UF20% 25V
2615	532212232654	22NF10%X7R 63V
2616	532212232654	22NF10%X7R 63V
2617	482212440248	10UF20% 63V
2618	482212440248	10UF20% 63V
2619	532212232531	100PF 5%NP0 50V
2620	532212232531	100PF 5%NP0 50V
2622	532212232531	100PF 5%NP0 50V
2623	532212232531	100PF 5%NP0 50V
2627	532212232531	100PF 5%NP0 50V
2628	482212614585	100NF 10% X7R 50V
2629	482212441751	47UF 20% 50V
2630	532212142386	100NF 5% 63V
2631	532212142386	100NF 5% 63V
2632	532212142386	100NF 5% 63V
2633	532212232654	22NF10%X7R 63V
2634	532212232654	22NF10%X7R 63V
2635	532212232654	22NF10%X7R 63V
2636	482212614585	100NF 10% X7R 50V
2637	482212441751	47UF 20% 50V
2638	482212614585	100NF 10% X7R 50V
2639	482212441751	47UF 20% 50V
2641	482212421913	1UF20% 63V
2642	482212421913	1UF20% 63V
2643	482212421913	1UF20% 63V
2644	482212421913	1UF20% 63V
2645	482212421913	1UF20% 63V
2646	482212421913	1UF20% 63V
2647	482212421913	1UF20% 63V
2648	482212421913	1UF20% 63V
2649	482212421913	1UF20% 63V
2650	482212421913	1UF20% 63V
2651	482212421913	1UF20% 63V
2652	482212421913	1UF20% 63V
2655	482212421913	1UF20% 63V
2656	482212421913	1UF20% 63V
2657	482212421913	1UF20% 63V
2658	482212421913	1UF20% 63V
2659	482212422652	2,2UF20% 50V
2660	482212422652	2,2UF20% 50V
2661	482212422652	2,2UF20% 50V
2662	482212422652	2,2UF20% 50V
2663	482212422652	2,2UF20% 50V
2664	482212422652	2,2UF20% 50V
2665	482212143526	47NF 5% 250V
2666	482212143526	47NF 5% 250V
2667	482212143526	47NF 5% 250V
2668	482212143526	47NF 5% 250V
2669	482212143526	47NF 5% 250V
2670	482212143526	47NF 5% 250V
2671	532212231866	6,8NF10%X7R 63V
2672	532212231866	6,8NF10%X7R 63V
2673	532212231866	6,8NF10%X7R 63V
2674	532212231866	6,8NF10%X7R 63V
2675	532212231866	6,8NF10%X7R 63V

CAPACITORS		
2676	532212231866	6,8NF10%X7R 63V
2677	532212232654	22NF10%X7R 63V
2678	532212232654	22NF10%X7R 63V
2679	532212232654	22NF10%X7R 63V
2680	532212232654	22NF10%X7R 63V
2681	532212232654	22NF10%X7R 63V
2682	532212232654	22NF10%X7R 63V
2683	532212232654	22NF10%X7R 63V
2684	532212232654	22NF10%X7R 63V
2685	532212232654	22NF10%X7R 63V
2686	532212232654	22NF10%X7R 63V
2687	532212232654	22NF10%X7R 63V
2688	532212232654	22NF10%X7R 63V
2689	532212142465	68NF 5% 63V
2690	532212142465	68NF 5% 63V
2691	532212142465	68NF 5% 63V
2692	532212142465	68NF 5% 63V
2693	532212142465	68NF 5% 63V
2694	532212142465	68NF 5% 63V
2695	532212142465	68NF 5% 63V
2696	532212142465	68NF 5% 63V
2697	532212142465	68NF 5% 63V
2698	532212142465	68NF 5% 63V
2699	532212142465	68NF 5% 63V
2700	532212142465	68NF 5% 63V
2831	532212232531	100PF 5%NP0 50V
2832	482212614585	100NF 10% X7R 50V
2833	532212232654	22NF10%X7R 63V
2834	532212232531	100PF 5%NP0 50V
2851	532212232658	22PF 5% 50V
2852	532212232658	22PF 5% 50V
2853	482212481151	22UF 50V
2854	482212481151	22UF 50V
2855	532212232531	100PF 5%NP0 50V
2856	532212232531	100PF 5%NP0 50V
2857	482212614585	100NF 10% X7R 50V
2858	482212441751	47UF 20% 50V
2860	482212441751	47UF 20% 50V
2861	532212232654	22NF10%X7R 63V
2862	532212232531	100PF 5%NP0 50V
2863	532212232531	100PF 5%NP0 50V
2864	532212232531	100PF 5%NP0 50V
2865	532212232531	100PF 5%NP0 50V
2866	532212232531	100PF 5%NP0 50V
2867	532212232531	100PF 5%NP0 50V
2868	482212233575	220PF 5% NP0 63V
2869	482212233575	220PF 5% NP0 63V
2871	482212233177	10NF 20% X7R 50V
2872	482212233177	10NF 20% X7R 50V
2873	482212233177	10NF 20% X7R 50V
2875	482212233177	10NF 20% X7R 50V
2876	482212233177	10NF 20% X7R 50V
2877	532212142386	100NF 5% 63V
2878	532212142386	100NF 5% 63V
2879	532212142386	100NF 5% 63V
2880	532212142386	100NF 5% 63V
2881	532212142386	100NF 5% 63V
2882	532212142386	100NF 5% 63V
2883	532212610511	1NF 5%NP0 50V
2884	532212610511	1NF 5%NP0 50V
2885	532212610511	1NF 5%NP0 50V
2886	532212610511	1NF 5%NP0 50V
2887	482212233127	2,2NF10%X7R 63V
2888	482212233127	2,2NF10%X7R 63V

ELECTRICAL PARTSLIST - MONO BOARD

CAPACITORS

2901	482212481151	22UF 50V
2902	482212440248	10UF20% 63V
2903	532212232287	4,7PF 5%NP0 50V
2904	482212613751	47NF10% X7R 63V
2905	482212440248	10UF20% 63V
2906	532212232268	470PF 10% 50V
2908	482212613473	220NF80-20% 50V
2909	532212610223	4,7NF10%X7R 63V
2910	482212233575	220PF 5% NP0 63V
2911	532212232654	22NF10%X7R 63V
2912	482212441584	100UF 20% 10V
2913	482212440248	10UF20% 63V
2914	532212232268	470PF 10% 50V
2916	482212613473	220NF80-20% 50V
2917	532212610223	4,7NF10%X7R 63V
2918	482212233575	220PF 5% NP0 63V
2919	482212441584	100UF 20% 10V
2920	482212613473	220NF80-20% 50V
2921	482212613473	220NF80-20% 50V
2922	532212232287	4,7PF 5%NP0 50V
2923	482212481151	22UF 50V
2924	482212440248	10UF20% 63V
2925	482212440181	220UF20% 10V
2926	482212614585	100NF 10% X7R 50V
2930	532212232531	100PF 5%NP0 50V
2931	532212232531	100PF 5%NP0 50V
2932	532212232531	100PF 5%NP0 50V
2933	532212232531	100PF 5%NP0 50V
2934	532212610511	1NF 5%NP0 50V
2937	482212233575	220PF 5% NP0 63V

RESISTORS

3251		482205120471	470R00	5%	0,1W
3252		482211710837	100K	1%	0.1W
3253		482211710837	100K	1%	0.1W
3254	▲	482211711342	0R33	5%	2W
3256		482211710833	10K	1%	0,1W
3257	▲	482211711342	0R33	5%	2W
3258		482211711149	82K	1%	0,1W
3259		482211710361	680R	1%	0,1W
3260		482211710834	47K	1%	0,1W
3263		482211710361	680R	1%	0,1W
3264		482211710837	100K	1%	0.1W
3266		482205120223	22K00	5%	0,1W
3267		482205120392	3K90	5%	0,1W
3268		482205120332	3K30	5%	0,1W
3269		482205120332	3K30	5%	0,1W
3270	▲	482205210479	47R00	5%	0,33W
3271	▲	482205210479	47R00	5%	0,33W
3272		482205120393	39K00	5%	0,1W
3291	▲	482205210109	10R00	5%	0,33W
3292		482211683933	15K	1%	0,1W
3293		482211710833	10K	1%	0,1W
3294		482211710833	10K	1%	0,1W
3295		482211683933	15K	1%	0,1W
3301	▲	482205210479	47R00	5%	0,33W
3304		482211711148	56K	1%	0,1W
3305		482211710834	47K	1%	0,1W
3306		482211710834	47K	1%	0,1W
3307		482211710834	47K	1%	0,1W
3308		482211711148	56K	1%	0,1W
3309		482205024708	4R70	1%	0,6W
3310		482205120182	1K80	5%	0,1W
3311		482205024708	4R70	1%	0,6W
3314		482211711148	56K	1%	0,1W

RESISTORS

3315		482205120182	1K80	5%	0,1W
3316		482205024708	4R70	1%	0,6W
3319		482211711148	56K	1%	0,1W
3322		482211711148	56K	1%	0,1W
3323		482205120182	1K80	5%	0,1W
3324		482211711148	56K	1%	0,1W
3326		482205120333	33K00	5%	0,1W
3327		482211711503	220R	1%	0.1W
3328		482205210479	47R00	5%	0,33W
3329		482211710837	100K	1%	0.1W
3330		482211710833	10K	1%	0,1W
3334		482205110102	1K00	2%	0,25W
3335		482205110102	1K00	2%	0,25W
3336		482205110102	1K00	2%	0,25W
3337	▲	482211711744	0R22	5%	1W
3338	▲	482211711744	0R22	5%	1W
3339		482211711139	1K5	1%	0,1W
3340		482211711139	1K5	1%	0,1W
3341	▲	482211711744	0R22	5%	1W
3342	▲	482211711744	0R22	5%	1W
3343		482211711139	1K5	1%	0,1W
3344	▲	482211711744	0R22	5%	1W
3345	▲	482211711744	0R22	5%	1W
3352	▲	482205310478	4R70	5%	1W
3353	▲	482205310478	4R70	5%	1W
3354	▲	482205310478	4R70	5%	1W
3356		482211710834	47K	1%	0,1W
3357		482205021003	10K00	1%	0,6W
3358		482205110102	1K00	2%	0,25W
3359		482211710837	100K	1%	0.1W
3360		482211710833	10K	1%	0,1W
3361		482205120471	470R00	5%	0,1W
3362		482205120471	470R00	5%	0,1W
3363		482205120471	470R00	5%	0,1W
3501		482211683933	15K	1%	0,1W
3502		482211683933	15K	1%	0,1W
3505		482211652244	15K	5%	0,5W
3506		482211652244	15K	5%	0,5W
3509		482211683933	15K	1%	0,1W
3510		482211683933	15K	1%	0,1W
3511		482205120101	100R00	5%	0,1W
3512		482205120101	100R00	5%	0,1W
3513		482211710834	47K	1%	0,1W
3514		482211710834	47K	1%	0,1W
3515		482205120471	470R00	5%	0,1W
3516		482205120471	470R00	5%	0,1W
3517		482205120393	39K00	5%	0,1W
3518		482205120393	39K00	5%	0,1W
3519		482205120822	8K20	5%	0,1W
3520		482205120822	8K20	5%	0,1W
3521		482205120393	39K00	5%	0,1W
3522		482205120393	39K00	5%	0,1W
3523		482205120822	8K20	5%	0,1W
3524		482205120822	8K20	5%	0,1W
3525		482205120393	39K00	5%	0,1W
3526		482205120393	39K00	5%	0,1W
3527		482205120822	8K20	5%	0,1W
3528		482205120822	8K20	5%	0,1W
3529		482205120471	470R00	5%	0,1W
3530		482205120471	470R00	5%	0,1W
3531		482205120393	39K00	5%	0,1W
3532		482205120393	39K00	5%	0,1W
3533		482205120822	8K20	5%	0,1W
3534		482205120822	8K20	5%	0,1W
3541		482205120393	39K00	5%	0,1W

ELECTRICAL PARTSLIST - MONO BOARD

RESISTORS

3542	482205120393	39K00 5% 0,1W
3543	482211712955	2K7 1% 0,1W 0805
3544	482211712955	2K7 1% 0,1W 0805
3545	482211710833	10K 1% 0,1W
3546	482211710833	10K 1% 0,1W
3547	482205120562	5K6 5% 0,1W 0805
3548	482205120562	5K6 5% 0,1W 0805
3551	482211711504	270R 1% 0.1W
3552	482211711504	270R 1% 0.1W
3553	482211711504	270R 1% 0.1W
3554	482211711504	270R 1% 0.1W
3555	482205120332	3K30 5% 0,1W
3560	482205110102	1K00 2% 0,25W
3561 ▲	482205210478	4R70 5% 0,33W
3562	482205120471	470R00 5% 0,1W
3563	482205110102	1K00 2% 0,25W
3601	482205120101	100R00 5% 0,1W
3602	482205120101	100R00 5% 0,1W
3603	482211710837	100K 1% 0.1W
3604	482211710837	100K 1% 0.1W
3605	482211711383	12K 1% 0,1W
3606	482211711383	12K 1% 0,1W
3607	482205120333	33K00 5% 0,1W
3608	482205120333	33K00 5% 0,1W
3609	482205120121	120R00 5% 0,1W
3610	482205120121	120R00 5% 0,1W
3611	482211710834	47K 1% 0,1W
3612	482211710834	47K 1% 0,1W
3618	482211710834	47K 1% 0,1W
3619	482211710834	47K 1% 0,1W
3620	482211652175	100E 5% 0,5W
3621	482205120101	100R00 5% 0,1W
3622	482205120121	120R00 5% 0,1W
3623	482205120121	120R00 5% 0,1W
3627 ▲	482205210109	10R00 5% 0,33W
3629 ▲	482205210109	10R00 5% 0,33W
3630	482205011002	1K00 1% 0,4W
3631	482205011002	1K00 1% 0,4W
3632	482205011002	1K00 1% 0,4W
3636	482205120471	470R00 5% 0,1W
3637	482205120471	470R00 5% 0,1W
3638	482205120471	470R00 5% 0,1W
3639	482205120471	470R00 5% 0,1W
3641	482211710837	100K 1% 0.1W
3642	482211710837	100K 1% 0.1W
3643	482211710837	100K 1% 0.1W
3644	482211710837	100K 1% 0.1W
3645	482211711148	56K 1% 0,1W
3646	482211711148	56K 1% 0,1W
3649	482211710837	100K 1% 0.1W
3650	482211710837	100K 1% 0.1W
3651	482211711148	56K 1% 0,1W
3652	482211711148	56K 1% 0,1W
3655	482211710837	100K 1% 0.1W
3656	482211710837	100K 1% 0.1W
3657	482211711148	56K 1% 0,1W
3658	482211711148	56K 1% 0,1W
3659	482211712955	2K7 1% 0,1W 0805
3660	482211712955	2K7 1% 0,1W 0805
3661	482205120562	5K6 5% 0,1W 0805
3662	482205120562	5K6 5% 0,1W 0805
3663	482211712955	2K7 1% 0,1W 0805
3664	482211712955	2K7 1% 0,1W 0805
3665	482205120562	5K6 5% 0,1W 0805
3666	482205120562	5K6 5% 0,1W 0805

RESISTORS

3667	482211712955	2K7 1% 0,1W 0805
3668	482211712955	2K7 1% 0,1W 0805
3669	482205120562	5K6 5% 0,1W 0805
3670	482205120562	5K6 5% 0,1W 0805
3671	482211710834	47K 1% 0,1W
3672	482211710834	47K 1% 0,1W
3673	482211711449	2K2 1% 0,1W
3674	482211711449	2K2 1% 0,1W
3675	482205120101	100R00 5% 0,1W
3676	482205120101	100R00 5% 0,1W
3677	482211710834	47K 1% 0,1W
3678	482211710834	47K 1% 0,1W
3679	482211711449	2K2 1% 0,1W
3680	482211711449	2K2 1% 0,1W
3681	482205120101	100R00 5% 0,1W
3682	482205120101	100R00 5% 0,1W
3683	482211710834	47K 1% 0,1W
3684	482211710834	47K 1% 0,1W
3685	482211711449	2K2 1% 0,1W
3686	482211711449	2K2 1% 0,1W
3687	482205120101	100R00 5% 0,1W
3688	482205120101	100R00 5% 0,1W
3689	482211711449	2K2 1% 0,1W
3690	482211711449	2K2 1% 0,1W
3691	482211652256	2K2 5% 0,5W
3692	482211711449	2K2 1% 0,1W
3693	482211711449	2K2 1% 0,1W
3694	482211652256	2K2 5% 0,5W
3695	482211713579	220K 1% 0.1W RC12H
3696	482211710833	10K 1% 0,1W
3697	482211652257	22K 5% 0,5W
3698	482211713579	220K 1% 0.1W RC12H
3699	482211710833	10K 1% 0,1W
3700	482205120223	22K00 5% 0,1W
3831	482205120101	100R00 5% 0,1W
3832	482205120479	47R00 5% 0,1W
3834	482205120101	100R00 5% 0,1W
3851	482205120332	3K30 5% 0,1W
3852	482205120223	22K00 5% 0,1W
3853	482211710833	10K 1% 0,1W
3854	482205120472	4K70 5% 0,1W
3855	482211683876	270R 5% 0,5W
3856	482211711504	270R 1% 0.1W
3857	482211710837	100K 1% 0.1W
3858	482211710837	100K 1% 0.1W
3859	482211710833	10K 1% 0,1W
3860	482211710833	10K 1% 0,1W
3871	482205120332	3K30 5% 0,1W
3872	482205120332	3K30 5% 0,1W
3873	482205110102	1K00 2% 0,25W
3874	482205110102	1K00 2% 0,25W
3875	482205120332	3K30 5% 0,1W
3877	482205110102	1K00 2% 0,25W
3878	482205110102	1K00 2% 0,25W
3879	482205120332	3K30 5% 0,1W
3880	482205120332	3K30 5% 0,1W
3881	482205110102	1K00 2% 0,25W
3882	482205110102	1K00 2% 0,25W
3883	482211711383	12K 1% 0,1W
3884	482211711383	12K 1% 0,1W
3885	482211711383	12K 1% 0,1W
3886	482211711383	12K 1% 0,1W
3887	482211711383	12K 1% 0,1W
3888	482211711383	12K 1% 0,1W

ELECTRICAL PARTSLIST - MONO BOARD

RESISTORS

3889		482211711449	2K2 1% 0,1W
3890		482211711449	2K2 1% 0,1W
3891		482205120822	8K20 5% 0,1W
3892		482205120822	8K20 5% 0,1W
3893		482205120822	8K20 5% 0,1W
3895		482205120822	8K20 5% 0,1W
3896		482205120822	8K20 5% 0,1W
3901	▲	482205210479	47R00 5% 0,33W
3902		482211711148	56K 1% 0,1W
3903		482211710834	47K 1% 0,1W
3904		482211683884	47K 5% 0,5W
3905		482205024708	4R70 1% 0,6W
3906		482211711148	56K 1% 0,1W
3908		482205120182	1K80 5% 0,1W
3910		482205024708	4R70 1% 0,6W
3911		482211711148	56K 1% 0,1W
3913		482205120182	1K80 5% 0,1W
3914		482211711148	56K 1% 0,1W
3915	▲	482205210479	47R00 5% 0,33W
3916	▲	482205310478	4R70 5% 1W
3917		482205023303	33K00 1% 0,6W
3918		482211711503	220R 1% 0.1W
3919	▲	482205310478	4R70 5% 1W
3920		482211710837	100K 1% 0.1W
3921		482205110102	1K00 2% 0,25W
3922		482205110102	1K00 2% 0,25W
3925		482211710833	10K 1% 0,1W
3926	▲	482211711744	0R22 5% 1W
3927	▲	482211711744	0R22 5% 1W
3928		482211711139	1K5 1% 0,1W
3929		482211711139	1K5 1% 0,1W
3930	▲	482211711744	0R22 5% 1W
3931	▲	482211711744	0R22 5% 1W
3935		482205110102	1K00 2% 0,25W
3936		482211710837	100K 1% 0.1W
3937		482211710833	10K 1% 0,1W
3938		482211711449	2K2 1% 0,1W
3939		482211711449	2K2 1% 0,1W
3940		482211711503	220R 1% 0.1W
3941		482211711503	220R 1% 0.1W
3943		482211710833	10K 1% 0,1W
3944		482211711503	220R 1% 0.1W
3945		482211711503	220R 1% 0.1W
3946		482205120471	470R00 5% 0,1W
3947		482205120471	470R00 5% 0,1W
3948		482211711503	220R 1% 0.1W
3949		482211711503	220R 1% 0.1W
3950		482205120182	1K80 5% 0,1W
3951		482205120182	1K80 5% 0,1W
3952		482205120101	100R00 5% 0,1W
3953		482205120101	100R00 5% 0,1W
3954		482205120101	100R00 5% 0,1W
3955		482205120101	100R00 5% 0,1W
4251		482205120008	0R00 JUMP. (0805)
4252		482205120008	0R00 JUMP. (0805)
4254		482205120008	0R00 JUMP. (0805)
4255		482205120008	0R00 JUMP. (0805)
4256		482205120008	0R00 JUMP. (0805)
4257		482205120008	0R00 JUMP. (0805)
4258		482205120008	0R00 JUMP. (0805)
4259		482205120008	0R00 JUMP. (0805)
4260		482205120008	0R00 JUMP. (0805)
4283		482205120008	0R00 JUMP. (0805)
4284		482205120008	0R00 JUMP. (0805)

RESISTORS

4285		482205120008	0R00 JUMP. (0805)
4287		482205120008	0R00 JUMP. (0805)
4320		482205120008	0R00 JUMP. (0805)
4505		482205120008	0R00 JUMP. (0805)
4506		482205120008	0R00 JUMP. (0805)
4512		482205120008	0R00 JUMP. (0805)
4513		482205120008	0R00 JUMP. (0805)
4514		482205120008	0R00 JUMP. (0805)
4515		482205120008	0R00 JUMP. (0805)
4516		482205120008	0R00 JUMP. (0805)
4517		482205120008	0R00 JUMP. (0805)
4518		482205120008	0R00 JUMP. (0805)
4519		482205120008	0R00 JUMP. (0805)
4520		482205120008	0R00 JUMP. (0805)
4521		482205120008	0R00 JUMP. (0805)
4522		482205120008	0R00 JUMP. (0805)
4523		482205120008	0R00 JUMP. (0805)
4524		482205120008	0R00 JUMP. (0805)
4526		482205120008	0R00 JUMP. (0805)
4528		482205120008	0R00 JUMP. (0805)
4529		482205120008	0R00 JUMP. (0805)
4530		482205120008	0R00 JUMP. (0805)
4531		482205120008	0R00 JUMP. (0805)
4532		482205120008	0R00 JUMP. (0805)
4533		482205120008	0R00 JUMP. (0805)
4537		482205120008	0R00 JUMP. (0805)
4538		482205120008	0R00 JUMP. (0805)
4539		482205120008	0R00 JUMP. (0805)
4540		482205120008	0R00 JUMP. (0805)
4541		482205120008	0R00 JUMP. (0805)
4542		482205120008	0R00 JUMP. (0805)
4543		482205120008	0R00 JUMP. (0805)
4544		482205120008	0R00 JUMP. (0805)
4545		482205120008	0R00 JUMP. (0805)
4548		482205120008	0R00 JUMP. (0805)
4550		482205120008	0R00 JUMP. (0805)
4551		482205120008	0R00 JUMP. (0805)
4552		482205120008	0R00 JUMP. (0805)
4553		482205120008	0R00 JUMP. (0805)
4555		482205120008	0R00 JUMP. (0805)
4556		482205120008	0R00 JUMP. (0805)
4557		482205120008	0R00 JUMP. (0805)
4558		482205120008	0R00 JUMP. (0805)
4559		482205120008	0R00 JUMP. (0805)
4560		482205120008	0R00 JUMP. (0805)
4563	▲	482211711151	1R 5%
4564		482205120008	0R00 JUMP. (0805)
4641		482205120008	0R00 JUMP. (0805)
4651		482205120008	0R00 JUMP. (0805)
4652		482205120008	0R00 JUMP. (0805)
4832		482205120008	0R00 JUMP. (0805)
4902		482205120008	0R00 JUMP. (0805)
4903		482205120008	0R00 JUMP. (0805)
4904		482205120008	0R00 JUMP. (0805)
4905		482205120008	0R00 JUMP. (0805)
4907		482205120008	0R00 JUMP. (0805)
4908		482205120008	0R00 JUMP. (0805)
4909		482205120008	0R00 JUMP. (0805)
4910		482205120008	0R00 JUMP. (0805)
4914		482205120008	0R00 JUMP. (0805)
4915		482205120008	0R00 JUMP. (0805)
4916		482205120008	0R00 JUMP. (0805)
4917		482205120008	0R00 JUMP. (0805)
4918		482205120008	0R00 JUMP. (0805)

ELECTRICAL PARTSLIST - MONO BOARD

FILTERS

5302	482215762255	COIL
5304	482215762255	COIL
5306	482215762255	COIL
5901	482215762255	COIL
5902	482215762255	COIL

DIODES

6251	482213082078	D5SBA20
6257	482213031878	1N4003G
6258	482213031878	1N4003G
6259	482213031878	1N4003G
6260	482220933575	L7812CP
6261	482213031878	1N4003G
6262	482213031878	1N4003G
6263	482213031878	1N4003G
6265	482220931841	L7805CP
6267	482220931841	L7805CP
6268	482213031878	1N4003G
6270	482213034278	BZX79-B6V8
6271	482213030621	1N4148
6274	482213031878	1N4003G
6275	482213031878	1N4003G
6276	482213034173	BZX79-B5V6
6279	482213030621	1N4148
6280	482213034281	BZX79-B15
6281	482213034281	BZX79-B15
6289	482213030621	1N4148
6290	482213030621	1N4148
6304	532213031504	BZX79-B3V3
6305	482213030621	1N4148
6501	482213030621	1N4148
6601	482213030621	1N4148
6602	482213030621	1N4148
6641	482213030621	1N4148
6642	482213030621	1N4148
6643	482213030621	1N4148
6644	482213030621	1N4148
6645	482213030621	1N4148
6646	482213030621	1N4148
6647	482213030621	1N4148
6648	482213030621	1N4148
6649	482213031878	1N4003G
6650 ⚠	482213061219	BZX79-B10
6831	482213030621	1N4148
6832	482213030621	1N4148

TRANSISTORS

7253	482213060511	BC847B
7255	482213060373	BC856B
7256	482213060511	BC847B
7257	482213041246	BC327-25
7258	482213041246	BC327-25
7259	482213060511	BC847B
7260	482213060511	BC847B
7261	482213060373	BC856B
7301	482220917447	STK496-270
7304	482213060511	BC847B
7305	482213060511	BC847B
7306	482213060511	BC847B
7307	482213060511	BC847B
7309	482213060373	BC856B
7310	482213060511	BC847B
7501	482220972748	LC7821
7503	482220983357	NJM4560M
7601	482220931378	NJM4556MB
7621	482213042615	BC817-40
7622	482213042615	BC817-40

TRANSISTORS

7641	482220917386	TDA7437T
7642	482220917386	TDA7437T
7643	482220917386	TDA7437T
7644	482213040855	BC337
7651	482213042615	BC817-40
7652	482213042615	BC817-40
7653	482213042615	BC817-40
7654	482213042615	BC817-40
7655	482213042615	BC817-40
7656	482213042615	BC817-40
7657	482213060373	BC856B
7658	482213060373	BC856B
7660	482220983357	NJM4560M
7661	482213042615	BC817-40
7662	482213042615	BC817-40
7901	482220917385	STK496-070
7902	482213060511	BC847B
7903	482213060511	BC847B
7904	482213060511	BC847B
7908	482213060373	BC856B
7909	482213060511	BC847B
7910	932213922687	BD242BFP